The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 690.—Vol. XVIII. LONDON, SATURDAY, NOVEMBER 11, 1848. [Price 6d.

Contract for Coals.

ADMINISTRATION OF THE POST-OFFICE OF FRANCE.

NOTICE IS HEREBY GIVEN, that TENDERS will be RECEIVED on the 20th of November, 1848, in the Council Room of the General Post-office at Paris, for the SUPPLY of THIRTY-NINE MILLION KILOGRAMS of LARGE COALS, to be delivered in Calais and different ports in the Mediterranean, for the service of the General Post-office steam-packets. 1

Conditions for the said supply can be ascertained at the office of the Consul-General of France, No. 3, Copthall-buildings, City.

TO RAILWAY CONTRACTORS, COAL AND IRONMASTERS, AND OTHERS.

MR. S. ROWLEY has received instructions from Messrs. T. Brassey and Co., to submit to PUBLIC COMPETITIONS, on the days and places after-mentioned—Six powerful ENGINES, SAW-MILL, PIT-FRAMES, 1000 CONTRACTORS' WAGGONS, and remaining Effects, on that part of the North Staffordshire Railway which has been completed under their contract, between Stone and Congleton:

On TUESDAY next, November 14, at the Harecastle Tunnel, near to the Harecastle Station, on the above Line of Railway—Six powerful ENGINES, SAW-MILL, PIT-FRAMES, &c., &c.

On WEDNESDAY next, November 15th, and following days—BAR-IRON, RAILS, SLEEPERS, CENTRES, PLANK, &c., &c., continuing on till all are sold.

On TUESDAY, November 21st, at Stone; November 22d, at Shelton Yard, near Stoke; and November 23d, at Congleton Station—1000 CONTRACTORS' WAGGONS. 2

Sale to commence each day at Twelve o'clock.

Further particulars may be obtained on application to John Jones, Esq., Newcastle-under-Lyne; Mr. Thomas Jones, on the Harecastle Tunnel; and the auctioneer, Buralem.

VALUABLE COLLIERY MATERIALS FOR SALE, AT ORRELL COLLIERY, NEAR WIGAN.

The under-mentioned MATERIALS are in good working condition, and are now OFFERED FOR SALE, BY PRIVATE TREATY—the proprietors having completed the winning of one of their collieries, and have no further use for them:—

1 14-horse HIGH-PRESSURE BEAM-ENGINE, with boiler, nearly new.
1 14½-inch RAM, 8 feet stroke, with plunger-pole, clacks, and clack-pieces, all complete.
1 14-inch ditto
1 14-inch working barrel, 9-feet stroke, with bucket and clackdoor-pieces, quite new.
1 12½-inch working barrel, 8 feet stroke, with bucket and clack-pieces, spare buckets
1 11-inch ditto and clacks—complete.
1 5-inch ditto with gland, stuffing-box, side pipes, all complete, and nearly new—stroke 8 feet.
1 4-inch ram, 2-feet 6-inch stroke, with clack-pieces, &c.
5 Malleable iron offtake joints, for pump-rods.
1 11-inch clack-piece.
2 Windbores, for sinking pits—11 inches diameter.
140 Yards of 13-inch pump stocks, with bolts, rings, &c.
1 Wooden cistern for ram, 8 feet deep, 5 feet 7 inches square inside.
1 Ditto ditto, 7 feet deep, 5 feet square inside.
1 17-inch STEAM CYLINDER, 4 feet stroke.
1 Pair of 10-feet pulleys, for flat-ropes—new.
8 Cast-iron stands, for head gear—1 Old boiler, about 2 tons.
1 10-horse CYLINDRICAL BOILER—good.
Air-pump and condenser for 10-horse engine.
1 Pair of gin pulleys, 3 feet diameter.

Walthew House Colliery Office, Oct. 25, 1848. 3

ECONOMICAL STEAM-ENGINE—surpassing the Cornish.—CRADDOCK'S PATENT DOUBLE CYLINDER HIGH-PRESSURE EXPANSIVE and CONDENSING ENGINE, alike adapted for MARINE, LOCOMOTIVE, and STATIONARY PURPOSES.

BOILER—Tubular, free from deposit, and perfectly safe from explosion.
ENGINE—Not half the weight or bulk of ordinary engines.
FUEL—Under 3 lbs. of coal per horse-power per hour.
WATER—Under 1 gallon per horse-power per day of 10 hours, for all purposes, with air as the medium of condensation.

These engines are erected at a comparatively trifling expense, and are easily worked.

FOR SALE.

TWO 40-horse power ENGINES, suited to CONDENSE either by air or water.
TWO 20-horse ditto ditto ditto ditto.
ONE 10-horse ditto ditto ditto ditto. 4

N.B.—The 10-horse is adapted to drive, warm, and ventilate a factory.

A PAIR of OSCILLATING MARINE ENGINES, of 10-horse power.

PRICE.—The patentee is desirous of placing some of his engines in good hands, and would accept an extremely low price from respectable parties for the above engines.

The above invention has been known through the scientific press since the date of the first patent, in 1840, since which much thought and capital have been employed in simplifying the practical details. It is now a most simple, efficient, and economical invention, as the engines above offered for sale will practically demonstrate.

Apply to Thomas Craddock and Co., 36 and 38, Broad-street, Birmingham, where engines on the above principle may be seen at work.

Also ON SALE, THREE 4-horse high-pressure ENGINES—simply arranged and well got up.—Price, £12 per horse-power.

WHEAL ST. ANNE COPPER MINE, DREWSTEIGNTON, DEVON.—TO BE DISPOSED OF, a FEW SHARES in this MINE. Further particulars may be obtained (if by letter, post-paid) from E. T. Higgins, No. 45, Spurriergate, York. 5

REAL DEL MONTE MINING COMPANY—(Ex-Debt.)

The SHARES in this company are now in COURSE of DELIVERY, and the preference of shares to the holders of debentures and shares in the old company will *absolutely cease* on Saturday next, the 18th Nov.; and to prevent the possibility of any further liability, beyond the advance of £1 per share, the letters of application for shares in the new company (ex-debt), will be returned to the applicants, together with the number of shares allotted to each. 6

Apply for prospectuses and shares to Mr. R. E. Little, stockbroker, Stock Exchange, and 11, Warnford-court, Throgmorton-street, where the old shares and debentures are being marked, as claiming the preference of shares in the new company.

ADVANTAGEOUS OPPORTUNITY.

CUBERT SILVER-LEAD MINE, in the parishes of Cubert and Perranzabuloe, in the county of Cornwall.—TO BE SOLD, BY PRIVATE CONTRACT, the ABOVE MINE, with STEAM-ENGINE, of 30-inches cylinder, 10-inches pitwork, and with all other necessary MATERIALS and BUILDINGS. 7

This mine offers a most excellent opportunity for investment, such as is seldom to be found. The engine-shaft is sunk to 7 fathoms below the 35 fathom level, and is expected to intersect the lode in 5 or 6 fathoms further sinking. The levels have been driven for a great length—the lode having been productive throughout, and the prospects being of the most promising description.

The mine is held under lease from John Oats, Esq., the Earl of Falmouth, and Sir R. R. Vyvyan, at 1-16th and 1-18th respectively.

Full particulars as to the state of the mine may be obtained from Capt. Francis Rowe, and from the secretary, Mr. Henry Thomas, 8, George-yard, Lombard-street, London, to whom proposals to treat for the purchase of the mine should be addressed.

Nov. 10, 1848.

GROWA SLATE COMPANY, TREVALGA, COUNTY CORNWALL.

1200 parts, or shares, of £5 per part, or share.
NOW IN WORK ON THE "COST-BOOK" PRINCIPLE. 8

This quarry has been worked for many years by Mr. Avery, of Delabole, so well known and eminently successful in the slate trade, which is of itself a guarantee of the value of the property. The lease of that gentleman has, however, expired, and the present proprietors propose a company to give full and greater impetus to the works.

The present lease is for 90 years from Lady-day, 1848, at a yearly rental of £100, without Royalty or dues of any kind.

The character of the slate has been long established throughout the United Kingdom, and on the continent, as being of the most superior description in every respect, tenacity, durability, colour, singular imperviousness to water, and resistance of atmospheric decomposition. In fact, it is of the first class slate, and shareholders residing in the metropolis, or its vicinity, have an opportunity of witnessing its appearance and effects by examining the roof of Camberwell New Church, the north side of which is covered with this slate, in slabs, with slate rolls, and is scarcely distinguishable from lead; while the south side, which is roofed with Bangor slate, will be found to be very inferior in every respect. The appearance of the one is beautiful in the extreme, while the other is the reverse. The one is also without a fracture of any sort, but the Bangor slate is much split and patched in many places. It is a curious coincidence of circumstances, that the slates of Growa and Bangor should be thus placed in juxta-position, but nothing can be more satisfactory for those who desire to invest in this undertaking than to have such an opportunity of ocular demonstration of the superiority of Growa slate over that of Bangor, which hitherto was supposed to be without rival.

The new church of St. Matthew, in the City-road, is likewise covered with "rags" of this slate.

The inhabitants of Manchester have also an opportunity of seeing the Growa slate. The beautiful church of Worsley, near Manchester, built by the Earl of Ellesmere, being covered with slabs similar to Camberwell Church. The roof of the elegant structure near Frome, Somersetshire, denominated "The Chauntry," is a specimen of this slate, as is also the church of Treckney, near Boston, in Lincolnshire.

All the necessary machinery is on the quarry. It is situated on the cliffs in the parish of Trevalga, within only one mile of the port of Boscastle. Vessels, however, can load at the quarry itself during three-fourths of the year, and requisite apparatus has been adjusted from the cliffs, to many fathoms at sea, so enable vessels to ride quietly while receiving their cargo, and ships of 120 tons have loaded in four hours.

Prospectuses, and every information, may be obtained on application to the offices, No. 37, Threadneedle-street, City.

HOUSE OF CORRECTION, WESTMINSTER.—TO ENGINE-MAKERS, MILLWRIGHTS, AND OTHERS.—TO BE SOLD, BY PRIVATE CONTRACT, the following articles of MACHINERY:— 9

2 Air-pumps, complete (cylinders 15 inches), 16 cog-wheels, large and small, 4 fly-wheels, 24 hoops, 6 lengths of shaft (75 feet), 2 girders (16 feet each), 6 bearing plates, all in good order and repair.—May be viewed at the above prison, on application to the Governor, on any week day, between Nine in the morning and Four in the afternoon.

STEAM-BOILER.—WANTED, a CORNISH BOILER, 50-horse-power, SECOND HAND, in good condition.—Address "W. & S.," No. 65, Wheeler-street, Spitalfields, London. 10

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM.
Price—£12 to £16; with boiler, £22 per horse. 11

FOR SALE, BY PRIVATE CONTRACT—A single-acting PUMPING-ENGINE—cylinder 30-inch diameter, 9-feet stroke, equal beam, with 7-ton boiler, cisterns, spring beam, and first set of rod-shafts attached, being the engine of Wheal St. Cleer.—For particulars, apply to Capt. Osborne, Liskeard; Mr. West, engineer, St. Blazey; or Mr. Rendle, the purser, 13, Octagon, Plymouth. 12

WATER GAS.—Having seen an advertisement in the *Manchester Examiner*, Sept. 9, that Mr. S. White is manufacturing gas from resin and water, this is to give Notice, that the COMBINATION of RESIN with WATER is MY INVENTION—I having produced it some years since, and it is my intention to carry it out speedily. JOHN NORTH, 200, Rochdale-road, Manchester.

John Jackson, Shudehill.
Emanuel Nelson, Miller-street, } Witnesses. 13

TO CONSUMERS OF GAS.—The PATENT GAS-LIGHT MONITOR—ADAPTED to EVERY DESCRIPTION of BURNER, and SUPPLIED at a COST placing it within the REACH of EVERY CONSUMER—regulates the flame of gas-lights to any required height—economising the consumption, and preventing the danger and inconvenience arising from the flaring of lights.

PATENTEE'S OFFICE, 20, KING-WILLIAM-STREET, CHARING-CROSS. 14

GENERAL TELEGRAPH COMPANY.—This company are now prepared to undertake the EXECUTION, by CONTRACT or OTHERWISE, of the most approved ELECTRIC, HYDRAULIC, PNEUMATIC, and MECHANICAL TELEGRAPHS.—Particulars of which may be ascertained by application at the company's offices, No. 9, John-street, Adelphi, London.

THE GENERAL TELEGRAPH COMPANY. 15

CALEDONIAN RAILWAY COMPANY.—At an Extraordinary General Meeting of the shareholders of the Caledonian Railway Company, held in the Euston Hotel, London, on Friday, the 10th day of November, 1848,

J. J. HOPE JOHNSTONE, Esq. (chairman of the company), in the chair. 16

The advertisement calling the meeting having been read, it was resolved—

1. That this meeting authorises the directors to communicate or give over to the Edinburgh and Glasgow Railway Company an interest or share in the existing agreement with the Scottish Central Railway, and Dundee and Perth, and Aberdeen Junction Railway Companies, in regard to the lease and working of the said lines, and to enter into such agreements, and adopt such measures, as may be found necessary for that purpose.

2. That this meeting authorises the directors of this company, along with the Edinburgh and Glasgow Railway Company, to enter into an agreement for the lease and working of the Scottish Midland Junction Railway upon the terms stated in the report of the directors, and to adopt such measures as may be necessary for such purpose.

J. J. H. JOHNSTONE, Chairman.
J. W. CODDINGTON, Secretary.

The chairman having left the chair, the cordial thanks of the meeting were given to the chairman for his able conduct in the chair. J. W. CODDINGTON, Secretary.

London, Nov. 10, 1848.

CAMERON'S COALBROOK STEAM COAL & SWANSEA AND LOUGHOR RAILWAY COMPANY.

Registered and Incorporated.

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of this company will be HELD in the company's offices here, on Wednesday, the 15th day of Nov. inst., at One o'clock in the afternoon precisely, for the purpose of considering the report of the committee of shareholders appointed at the general meeting on the 28th of July last, and of disposing thereof, and dissolving the said committee; also for the purpose of considering, amending, altering, or repealing certain rules, regulations, and provisions of the Deed of Settlement, regulating and incorporating the company, to be then submitted to the meeting, and of entering into such resolutions thereon as may be necessary for carrying the same into effect. 17

By order of the board of directors,
A. C. HOWDEN, Secretary.

Company's Offices, 2, Moorgate-street, London, Nov. 1, 1848.

RIDER'S RAILWAY BRIDGE.—TO RAILWAY COMPANIES.—This BRIDGE has now been for 18 months in DAILY USE (having a double track) on the HARLEM RAILWAY, in the State of New York, United States. The Erie Railway and the Newhaven Railway Companies have likewise adopted it. 18

Several other bridges, for ordinary purposes, are also being constructed.

The advantages of this over all other iron bridges hitherto invented, consist in the small amount of iron required, compared with the strength obtained, in avoiding the use of any surplus weight of material, in the consequent economy of its construction, and also from its lightness, easy mode of putting together, and facility of transport, in its peculiar adaptation for foreign use.

As regards economy, it can be erected at a cost not exceeding that of a WOODEN BRIDGE, of equal capability.

Applications to be made to Mr. Moulton, the patentee, Bradford, Wilts.

NEW ATMOSPHERIC RAILWAY.—NO LONGITUDINAL VALVE.—The CYLINDER may be constructed of CAST-IRON TUBES, of any convenient length—like the mains of gas or water pipes. Here an immense saving of expense will be at once effected. 19

These TUBES can be UNITED TOGETHER, perfectly air-tight, and a piston can be constructed to work therein—air-tight also. This accomplished, the inventor engages to preserve, for a motive-power, as perfect a vacuum as can be made; and he further engages to communicate this power, with little or no loss, from the inside of the cylinder to the outside, for the PROPULSION of RAILWAY CARRIAGES, and the rails now used will answer well.—CAPITALISTS' ATTENTION IS CALLED TO THE ABOVE.

No attention will be given to communications, except made through some London solicitor, of known standing in the profession.

*** Address "O. L. Z.," Post-office, Battersea, near London.

NEW ATMOSPHERIC APPARATUS, OR RAILWAY. NO LONGITUDINAL VALVE.

The CYLINDER may be constructed of CAST-IRON TUBES, of any convenient length—like the mains of gas or water pipes. Here an immense saving of expense will be at once effected. 20

These TUBES can be UNITED TOGETHER, perfectly air-tight, and a piston can be constructed to work therein—air-tight also. This accomplished, the inventor engages to preserve, for a motive-power, as perfect a vacuum as can be made; and he further engages to communicate this power, with little or no loss, from the inside of the cylinder to the outside, for the several purposes the same may be applied to—as for the PROPULSION of RAILWAY CARRIAGES—for the raising of water to heights not limited by atmospheric pressure—and, indeed, the APPARATUS will be FOUND AVAILABLE for very many other purposes.—CAPITALISTS' ATTENTION IS CALLED TO THE ABOVE.

No attention will be given to communications, except made through some London solicitor, of known standing in the profession.

*** Address "O. L. Z.," Post-office, Battersea, near London.

Under the immediate sanction and patronage of His Royal Highness PRINCE ALBERT, Will be published on the 1st of January, 1849, 21

THE MINING ALMANACK: Compiled and arranged by HENRY ENGLISH—containing Original Papers and Illustrations, with comprehensive Statistical and Tabular Matter, treating on Geology, Metallurgy, Mineralogy, Practical Mining, Engineering, Mechanics, and the various other branches of science connected therewith.

Communications are requested to be addressed to Mr. English, 25, Fleet-street.

PROFESSIONAL LIFE ASSURANCE COMPANY, Connecting the Clerical, Legal, Military, Naval, and Medical professions, and holding out advantages to the public not hitherto offered by any similar institution.

Incorporated.—Capital £250,000.

Established upon the mixed, mutual, and proprietary principle. 22

Rates essentially moderate.—Every description of policy granted. Immediate, survivorship, and deferred annuities; and endowments to widows, children, and others.—Every policy (except only in cases of personation) indisputable.—The assured permitted to go to and reside in Canada, Nova Scotia, New Brunswick, Australasia, Madeira, Cape of Good Hope, and Prince Edward's Island, without additional premium.—Medical men remunerated for their reports.—Loans granted on real or personal security.—One-tenth of the entire profits appropriated for the relief of the assured while living, and of his widow and orphans.—Annuities granted in the event of blindness, insanity, paralysis, accidents, and any other bodily or mental affliction, disabling the parties.—Persons of every class and degree admitted to all the advantages of the corporation.—Rates for assuring £100 at the age of 25, 35, 45, and 55, respectively—namely, £1 14s. 6d., £2 5s. 6d., £3 4s. 3d., and £4 19s. 6d.

Prospectuses, with full details, may be had at the office.—Applications requested from parties desirous of becoming agents. EDWARD BAYLIS, Actuary and Secretary.

Offices, 75, Cheapside, London.

WANTED, a PARTNER, in a FIRST-RATE COLLIERY in SOUTH WALES, who can command a capital of from £2500 to £3000.—To any respectable party having the required amount—none other need apply—the present opportunity will be found to offer advantages seldom to be met with.—For particulars apply, with real name and address, to No. 10, Post-office, Newport, Monmouthshire. 23

TO IRON AND COAL MASTERS.—A PERSON of middle age, brought up to, and of 20 years' experience in the erection and management of every department of iron and coal works in England, North and South Wales—20 years agent, partner, &c., of a late leading M.P., is OPEN to an ENGAGEMENT.—With testimonials, &c., address "B.," Langharne, Carmarthenshire. 24

MINING INVESTMENT.—Captain JOHN HAMBLY, of GUNNIS LAKE, CALSTOCK, CORNWALL, being advantageously located in the centre of the mining districts of Cornwall and Devon, and having made arrangement for PURCHASING and SELLING MINING SHARES, &c., on COMMISSION, begs to OFFER his SERVICES to his FRIENDS and the PUBLIC generally.

J. H. having been a mine agent for 20 years in the said counties, and having a practical knowledge of mining (for which the necessary testimonials can be produced, if required), will give the fullest information in his power (without charge), and a survey, or inspection, would be made of any mining property, by himself, on moderate terms. 25

MINING INVESTMENT.—Mr. R. THOMAS, of No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON (who has had upwards of 20 years' experience as a mining agent in London), having made arrangements to resume PURCHASING and SELLING MINE and OTHER SHARES ON COMMISSION, begs to OFFER his SERVICES to his FRIENDS, CAPITALISTS, and OTHERS, in the TRANSACTION of such BUSINESS. The unprecedented low price of mine shares renders the present a most favourable period for investment, with the prospect of large returns.—The fullest information (without charge) will be given relative to mining operations and investments; and a survey, or inspection, if required, of any mining property will be made by a competent party, on moderate terms. 26

MINING IN AUSTRALIA, NORTH AMERICA, &c.—A GENTLEMAN, of high standing in his locality, who has been for the last 15 or 20 years a large adventurer in the mines of Cornwall—with the nature of which, and with the whole procedure for their working, he is thoroughly acquainted—experienced also in commercial affairs, in which he is competent to undertake a French, Italian, or Spanish correspondence—would be willing to enter upon an ENGAGEMENT to SUPERINTEND a MINING COMPANY in AUSTRALIA, or elsewhere; or to TREAT with any gentleman for the FORMATION of a MINING COMPANY at the former, he himself being ready to bring some capital into such undertaking. As the advertiser will be prepared to tender the highest references in respect of himself, no proposals can be entertained but such as are of first-rate respectability.—Apply per letter (pre-paid), addressed to "A. M. A.," care of the Editor of the *Mining Journal*, 26, Fleet-street, London. 27

Nov. 9, 1848.

MINERAL PROPERTIES AND ESTATES.—Mr. HENRY ENGLISH begs to intimate to the PROPRIETORS of MINES and MINERAL PROPERTIES, as also to ADVENTURERS in MINES, that REPORTS and SURVEYS, with PLANS and SECTIONS, illustrative thereof, will be FURNISHED by him, being aided by agents in the various mining localities, of undoubted practical knowledge and experience. Information or advice rendered on all points touching mining pursuits, which Mr. H. English feels himself competent to afford, as the result of his personal investigation and inquiries during several years of his connection with the several mining districts.—Estimates given for exploring or proving mining ground, as also the machinery requisite, with drawings. 28

OFFICES—No. 25, FLEET-STREET, LONDON.

MINING OFFICES.—Established Five Years.—THOMAS P. THOMAS begs to inform his friends and the public, that he has REMOVED from No. 18, Threadneedle-street, to No. 3, GEORGE-YARD, LOMBARD-STREET, LONDON (late Messrs. Phillips and Tiplady's). 29

N.B.—Dealer in English and Foreign Funds, Mining, Railway, Gas, and other shares.

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum; whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities. 30

MR. JAMES STRIDE, MINING SHARE AND GENERAL AGENT, 27, SPRING-GARDENS, LONDON, has FOR SALE, SHARES in the best BEST DIVIDEND-PAYING and OTHER MINES. 31

JAMES LANE, MINING SHARE DEALER, 80, *OLD BROAD-STREET, LONDON.* 32

ABERGWESSIN SILVER-LEAD MINING COMPANY.—Notice is hereby given to the shareholders in the above company, that, unless the ARREARS of CALLS are PAID to the credit of the committee of management with the National Provincial Bank of England, at Brecon, on or before the 1st day of Dec. next, the respective SHARES, in respect of which such arrears shall not be paid, will absolutely be FORFEITED.—Dated this 8th day of Nov., 1848.

By order of the committee of management, P. P. COUCH, Purser. 33

ALTEN MINING ASSOCIATION.—The directors of this association hereby give Notice, that a GENERAL MEETING of the shareholders will be HELD at the offices, Winchester-house, 52, Old Broad-street, on Friday, the 17th day of November inst., at One for Two o'clock precisely, for the purpose of receiving the report of the directors, and also a statement of the financial accounts to the 31st March last. The accounts will be at the office, for the inspection of the shareholders, three days previous to the meeting.—Dated this 3d day of November, 1848.

By order of the board, EDW. J. COLE, Secretary. 34

ASTURIAN MINING COMPANY.—The board of directors hereby give Notice, that they have made a further CALL of ONE POUND per share upon the shares in the capital stock of this company, and that such call is PAYABLE at the London and County Bank, Lombard-street, on or before the 21st day of November next.

By order of the board,
K. MACKENZIE, Secretary.

Offices of the Company, No. 9, Austinfriars, Oct. 20, 1848. 35

GADAIR MINING COMPANY.—A SPECIAL GENERAL MEETING of the adventurers in the above mine is hereby CALLED, for the purpose of declaring forfeited all shares on which the several call or calls, made from time to time heretofore, shall not then have been duly paid, or for taking such other measures as may be deemed expedient for the recovery of the same, and the names of the several defaulters being made public—such meeting to be held at the Queen's Arms Tavern, Cheapside, on Wednesday, the 15th inst., at the hour of Three o'clock precisely.

Offices, 25, Fleet-street, Nov. 8, 1848. HENRY ENGLISH, Hon. Purser. 36

IRELAND.—GENERAL MINING COMPANY FOR IRELAND—Office, No. 2, Burgh Quay, Dublin, Nov. 7, 1848.—Notice is hereby given, that a HALF-YEARLY GENERAL MEETING of the proprietors will be HELD at the office of the company, No. 2, Burgh Quay, on Monday, the 4th day of Dec. next, at the hour of Eleven o'clock in the forenoon, to receive the half-yearly accounts, up to the 2d October last, and the auditors' report thereon, and to transact the general business of the company—to elect nine directors of the company for the ensuing year. The ballot for which will commence at Eleven o'clock in the forenoon, and close at Three o'clock in the afternoon of the above day. THOMAS MAGUIRE, Secretary. 37

RHYMNEY IRON COMPANY.—The ANNUAL MEETING of the proprietors of the Rhymney Iron Company will be HELD at the company's offices, 7, Laurence Pountney-hill, at One o'clock precisely, on Wednesday, the 15th inst., as fixed by the Deed, when the accounts for the year ending 24th June last will be laid before the proprietors. T. E. SCUDAMORE, Secretary.

7, Laurence Pountney-hill, Nov. 1, 1848. 38

PENNANT AND CRAIGWEN CONSOLIDATED LEAD MINING COMPANY.—Notice is hereby given, that the COMPANIES heretofore known as the PENNANT LEAD AND COPPER MINING COMPANY, and the CRAIGWEN LEAD MINES COMPANY, are now AMALGAMATED, under the above denomination.—The Cost-book, under the amalgamation, lies for signature at the offices of the company, 57, Threadneedle-street, where prospectuses, and every information, may be obtained.—Oct. 9, 1848. WILLIAM W. MANSELL, Purser. 39

PENNANT AND CRAIGWEN CONSOLIDATED LEAD MINING COMPANY.—Notice is hereby given, that the directors are ready to RECEIVE TENDERS for the WORKING, either on tribute or by contract, of a valuable DEPOSIT of IRON PYRITES, wholly free from arsenic, and also of UMBER, of the finest description and colour; also to supply large or small quantities of both articles.

Specimens may be seen at the office, 57, Threadneedle-street; or at the mine, 338, High-street, Wapping.—Oct. 9, 1848. WILLIAM W. MANSELL, Purser. 40

NOTICE IS HEREBY GIVEN, that the OFFICES of the PENNANT LEAD AND COPPER MINING COMPANY—now amalgamated with the Craigwen Lead Mines Company—and also of the TIN VALE MINING COMPANY, are REMOVED to 57, THREADNEEDLE-STREET, CITY, where it is requested all communications may in future be addressed.

Oct. 9, 1848. WILLIAM W. MANSELL, Purser. 41

On the Winning and Working of Collieries.

BY MATTHIAS DUNN, MINING ENGINEER.

[No. XIX.—*Continued from the Mining Journal of the 28th October.*]

VENTILATION.

Piping of Gas.—Many are the theories which have been promulgated under this title, some of which will come under review in extracts which I have been induced to make, from communications in the *Mining Journal*, which extracts will show the incompetence of theorists to form a correct judgment upon a subject with which they have not made themselves practically acquainted. There is one communication which deserves to be specially noticed, inasmuch as the individuals held a high rank in science, and were authorised by Government to make all necessary research into the subject. I allude to Messrs. Lyell and Faraday, who were, with Mr. Stutchbury, mine agent for the Duchy of Cornwall, specially sent down by Government to investigate the causes of the explosion at the Haswell Colliery, in 1843, whereby many lives were sacrificed, whilst the colliery was said to be conducted upon the best principles extant. The immediate cause of the explosion was ascertained to have taken place from an accumulation of inflammable air in the goaves, in which the workings were carried on by means of safety-lamps, but naked lights were used at a small distance from the place. These gentlemen having examined, in detail, the workings and ventilation of the mine, published in a pamphlet certain suggestions as to the management of foul air, which might accumulate in goaves. A pamphlet from such authority, and upon so vital a subject, could not but command attention; it was, therefore, reviewed by a committee of viewers appointed by the north country coal proprietors, as also by me; and as the opinions formed by these men of science were held to be incompatible with either sound philosophy or practical effect, it may not be unimportant to extract a portion of their remarks. They describe the goaf as "of devious form and of various quantities of acres, including falls in the roof to unlimited extent, that the said goaves will fill with gas, which gas will, from time to time (actuated by various circumstances, such as change of atmosphere, falls of stone, and deficiency of air), insinuate itself upon the neighbouring lights, &c." They, therefore, suggest a plan of "drawing off to the upcast shaft the gas accumulated in the goaves by means of cast-iron pipes, one end to terminate in the goaf, and the other at the upcast shaft, the said pipe to be 12 inches in diameter, and made air-tight at the joints, by caulking or otherwise;" the juds to be so wrought and drawn as to give a suitable form to the goaf, the better to induce the principle to act; the transit of gas to be accelerated by means of a blowing cylinder box, double bellows, or revolving fanner, to be wrought by manual labour or by steam-power; that the goaf end of the pipe should be furnished with wooden trunks, fitted together temporarily, or air-tight cloth, kept open by rings, the roof to be propped up about the end of the pipe, or to extend the exit end into the return airway; but in some part of the pipe must be placed the artificial means of eduction before described, to be worked probably by a man." The learned gentlemen conclude by stating —"Such is the general plan which, with some degree of confidence in its principles, we venture to submit to practical men for their consideration."

The basis of this theory is founded upon the principle that the carburetted hydrogen being so much lighter than the air of the mine, it will accumulate towards the upper parts of the goaf, and the pipe being once applied, it will naturally be conveyed away out of the mine. Without, therefore, quarrelling with the incalculable expense which such a system would entail,* I wish to point out a serious oversight which the report contains regarding the effect of the pipe, &c.—viz.: If the pipe furnished the most easy egress for the gas of the goaf, it would beyond doubt also be the most natural conductor for the air of the mine, tending to escape from the distant air courses. The air of the mine then would rush through all such pipes with a velocity proportionate to the saving of distance, and the result would be, the depriving the distant workings of ventilation. Hence the utter impossibility of employing pipes to carry off the gas of mines, without first isolating the part containing the gas; and this remark will be found to apply to every plan having for its object the introduction of pipes for the ventilation of mines, for they are equally inapplicable for removing the gases which are continually exuding from the whole coal, as they are for removing that which may accumulate in the goaves.

Dr. Murray in 1846, and Mr. Sweetlove in 1847, have both published papers greatly coinciding with the opinions of Messrs. Lyell and Faraday; indeed, the latter gentleman seems to have adopted Dr. Murray's plan as his own, adding thereto other complicated apparatus. He states that—"Fire-damp, if undisturbed by currents, will float in a horizontal plane in contact with the roof of the mine, agreeably to its low specific gravity. In order to get rid of it, I would recommend that pipes, perforated at intervals in the circumference, attached to the roof, be distributed in the various recesses of the mine, and thus receive the gases in their different ramifications; these pipes entering a main trunk or channel, the light carburetted hydrogen is finally conveyed to an air-tight furnace at the bottom of the upcast shaft, where it is consumed, the air of support being supplied from below through numerous folds of wire-gauze, and the products of combustion suffered to escape through the top by means of a similar provision; the mouth of the pipe, where it enters the air-tight furnace, being similarly supplied with wire-gauze. I propose further to ignite the gas by means of Smee's voltaic battery, by which the gas may at any time be kindled."

Again—"I propose that a stream of water, mingled with air, should descend through a pipe in the downcast shaft, and be allowed in its descent to escape through lateral orifices near the lower terminus, these orifices having trumpet mouths; the water, of course, which enters the pipe must only partially occupy the interior, as air must flow along or mingle with it."

"The air of the mine may be purified by forcing cold water through a syringe, so that the streamlet be much divided, or caused to diverge or ramify, or the air may still be better purified by the use of lime-water, or quick-lime should be sprinkled on the floor. Nascent chlorine may also be used occasionally to great advantage, or dry chloride of lime sometimes may be scattered on the floor of the mine; the atmosphere would thus be completely depurated, the expense but trifling, and the advantage undoubted."

A person writing in the *Mining Journal*, Dec. 18, 1847, under the signature of "N. B.," thus sensibly calls in question the theory of the piping systems of Mr. Sweetlove and others, in the following remarks, which are to the point:—"Can the regular coursing of the atmospheric air be carried on, whilst the pipes for withdrawing the inflammable gas are in operation? To me it appears that the inflammable gas cannot be withdrawn in that way without injuring the airing of the pit altogether. Let the pipes be in the face of the workings; you cannot prevent the air in going round from entering the first pipe, any further than under the present system you can prevent the air from taking the nearest course to the air-furnace."

Mr. Wilcock's patent invention, Dec., 1847, consists of elongating the upcast shaft from 60 to 100 ft., by the addition of stacks or towers. Within the said upcast shaft, or in the stack, he applies a furnace, and the workmen and coals are made to pass out of the lower part of the stack by means of an aperture in the wall thereof, the sectional area of the stack to be kept equal to that of the upcast shaft. Such is the essence of this gentleman's patent, a practice that has prevailed for nearly two centuries.

Mr. Spence, in lecturing at Manchester, in December, 1847, sets forth a plan of lighting mines, which from its novelty deserves notice:—"He proposes that all coal-pits should be fitted up with an apparatus for the production of coal gas, consisting of main pipes and branch fittings, peculiarly adapted to the circumstance of the case; the pipes to have flexible joints of vulcanised cautchouc to prevent breakage. The gas to be conducted down a main pipe to the bottom of shaft, and by branch mains from thence to the several underground workings, and then branch service pipes to the various lamps to be used. Another series of pipes would also be required for the conveyance of air from the atmosphere above ground; this would be one main pipe down the shaft, with branch mains and service pipe to each lamp. The burners of the lamp to be constructed on the principle of causing the air admitted from the air-pipe to be spread in a thin stratum around the flame. The lamps might be constructed of two gas cylinders the one encasing the other in case of breakage, being accessible to none but the superintendent. Anothes series of pipes would be needed, to convey from the lamp the products of combustion to the atmosphere above ground."

The lecturer was not prepared to speak to the expense of this complicated affair. Such are the numerous instances of the facility with which persons unacquainted with practical mining surmount difficulties!

Reversing of Air Currents.—The reversing of the air current is a matter of common practice in extensive collieries, and is frequently rendered necessary by the sudden discharge of gas, or for the more convenient changing of the working places; but in many instances the advantage of it is ill understood. The difficulty especially applies where a certain shaft has been for a considerable period a furnace or upcast shaft, and where probably its natural position well befits it for being an upcast, whereas the peculiar circumstances of the colliery underground may demand that the case be reversed. In former times this operation used to be carried into effect by dint of heavy waterfalls, made to descend the hitherto upcast shaft, whilst a lamp or furnace was ready to be lighted in the intended upcast shaft; but this device often failed to turn the air current, which had acquired a certain momentum in the opposite direction. The most effectual manner of reversing the air currents, is to prepare the necessary doors for effecting a temporary stagnation in that part of the air course. By similar means any other part of the air current may be reversed, always bearing in mind that the natural bent of the current will be to press towards the nearest outlet; therefore these sort of changes are often required to be brought about by obstructing the short column, and giving vent to the long one.

[*To be continued in next week's Journal.*]

* The United Committee of the coal trade concluded, that to carry out the piping system at the Haswell Colliery, would require more than 12 miles of pipes, and would cost from 30,000*l.* to 30,000*l.*

THE IRON MANUFACTURE OF SOUTH WALES.*

[*Continued from last week's Mining Journal.*]

Though iron is mentioned by Strabo as a British product, the Celtic colonists of the island, judging from their sepulchral remains, seem to have possessed the metal in very small quantities, and to have neglected its use even for weapons of war. They were a fierce and imaginative, not a mechanical people. The Roman invaders were men of a different stamp, and under their sway, the ores of the country were extensively though imperfectly worked. Very considerable heaps of cinders, containing coins and other Roman relics, have been found in Sussex, Lancashire, Yorkshire, Glamorgan, and the Forest of Dean. In the latter place they were so imperfectly smelted as to retain from 30 to 40 per cent. of metal, so that latter manufacturers have found it profitable to reduce them a second time. Indeed, many of the less common varieta of ore must have been absolutely irreducible with the means then possessed. At a far later period, the companions and followers of Columbus brought home large masses of a yellow crystallised ore, which they were unable to reduce, and which were borne with much pomp, as gold, in the triumphal entries into Madrid. These crystals were treasured up as valuable heirlooms by the Spanish nobles, and it was only upon the dispersion of property by the French, that they were discovered to be an ore of iron.

The Plantagenet and Tudor monarchs enacted many laws, and granted divers patents relating to mines of gold, silver, lead, tin, and copper, but, with one or two exceptions, iron does not seem to have engaged much of the attention of the Legislature before the reign of Elizabeth. In that century, Hollinshed mentions the iron of Sussex, Kent, and Mendip, as of better quality than that imported from foreign parts, "and from it toughness fit even for the wires of the clavichord."

The earlier furnaces were called "bloomeries." An air-bloomery was a mere kiln unaided by a blast, and capable only of reducing the ore to a semifused incohate mass or bloom, which was afterwards reheated, and hammered into shape and purity. Sussex, Westmoreland, and the Forest of Dean were the seats of the infant manufacture in the 17th century. The use, at a later period, of a regular blowing apparatus, converted the air-bloomery into a "blast-blomerie," and enabled the manufacturers to deal, though still imperfectly, with more refractory ores. The process of deoxydisation was rendered more complete, and the result was a description of crude cast-iron. The air-bloomery stood in the plain to receive the full benefit of the wind; the blast-bloomery, on the contrary, was commonly placed in the valley, or near the hill, for the convenience of the water-power. The earlier furnaces worked only in winter, the summer was spent in raising ore and preparing fuel. This fuel was charcoal, made principally from oak, to the great destruction of the forests. On this account, in 1581, the fuel was restrained to small wood, and Elizabeth and James occasionally suppressed and restrained an iron-work. At a still later period, the accomplished author of *Sylva* laments the sacrifice of his loved Hamadryads upon the altars of Mars and Vulcan.

John Sutton, seventh Baron Dudley, known in his poverty as "Lord Quondam," was wrongfully dispossessed of his lands by John Dudley, Earl of Warwick, who claimed, as is supposed upon insufficient grounds, to be of that family—"Cozenage on cousinage" the wits of that day called the transaction. After the fall of the Warwick Dudley, Queen Mary restored the lands to Sir Edward Sutton, the eighth baron. His son Edward Sutton, ninth Baron Dudley, inherited, in consequence, with his title the castle and barony of Dudley, the seat of the mineral property of his present wealthy representative. Lord Dudley appears to have been an active intelligent man, and to have attended, though not very successfully, to the improvement of his property. In 1619, at the suggestion of his (natural) son, Dud Dudley, he obtained a patent from James for the substitution of pit coal for charcoal in the manufacture of iron, and the son, whose chemical knowledge was far before his day, seems to have succeeded where his contemporaries, probably from insufficient knowledge of the subject, failed. In his early attempts he made about three tons per week of good merchantable iron, a fact which he has recorded in a valuable and amusing account of his experiments and adventures, published under the title of *Metallum Martis*. Mr. Dudley was most unfortunate. Soon after the sealing of James's patent, the great May-day flood swept away his works, sparing those of many of his rivals. Then, in the 21st of James, Parliament abolished monopolies, and it was only with much ado that he saved his patent from falling with them. For a time he sold his iron at 12*l.* per ton, and made pots and pans and all sorts of cast-iron ware to his heart's content. Then came the strife between king and parliament, and another patent, granted 14th Charles I., only helped to bind him to the royal and losing side. Evil men, charcoal owners, cut holes in his bellows. The profits of his works were eaten up in law expenses. A clerical ironmaster, with self-imposed orders of the church militant upon earth, "one Capt. Wildman, more barbarous to me," he complains, "that a wild man," got possession of the estates, and finally Oliver himself is said to have speculated in the trade. Under such protracted troubles and rivalry, Mr. Dudley became a mere *caput-mortuum*, and the merit of his invention lay dormant above a century, to the great retardation of the manufacture.

In 1637, before the troubles, the consumption of timber was so serious that it was thought necessary to discourage the manufacture. The wisdom of that age forbad the export of iron, and for a time much of the iron consumed in England was of foreign manufacture. Fuller, in his *Book of Worthies*, published in 1662, observes—"It is to be hoped that a way may be found out to charke sea-cole in such manner as to render it useful for the making of iron. All things are not found out in one age, but are reserved for future discovery; and that perchance may be easy for the next which seems impossible to this generation."

Dudley regards the iron trade as on the wane, but Simon Sturtevant mentions the existence in his own time, 12th James I., of 300 furnaces in England, producing annually about 180,000 tons of charcoal pig-iron. This estimate, however, must certainly have been materially above the truth.

Where the Dudleys lost a fortune, others, equally deserving, and more fortunate, succeeded in gaining one. Foley, a Worcestershire yeoman, whose attention had been turned to the iron manufacture, visited Sweden, supporting himself by his violin, to perfect himself in the secrets of the business, and carried home what he supposed to be complete drawings of the machinery employed in splitting up bars of iron into the rods used in making nails. On reaching England, and by the aid of friends erecting a splitting-mill, he discovered something incomplete in his details, and the machine would not act. He had the perseverance to return to Sweden, fiddling as he went, and there to complete his knowledge. Such a man could scarcely fail. He and his son amassed a fortune of 5000*l.* per annum, and not only gained a peerage, but founded schools and hospitals, and left behind them a name for the practice of religion and the support of religious liberty, which has been gratefully recorded by Baxter, as the steady perseverance of the father has been commemorated by Coleridge.

Some years after the restoration, Mr. Dudley's process was revived by a Whitehaven company, headed by Sir James Lowther, and incorporated by charter, 5th William and Mary. The project did not succeed. It was afterwards taken up by William Wood, of Irish copper coinage notoriety. The Drapiers, of Whitehaven, however, if less witty, were to the full as unjust and unsparing as their Irish prototype; and Wood's scheme, and a large contract undertaken for the Government, seem to have fallen to the ground. It was not until the latter half of the 18th century that iron, prepared with pit-coal, was manufactured at Colebrook Dale, and came into general use. Peat fuel was tried without success. In 1740, charcoal was still the exclusive fuel. There were then, in England and Wales, 59 furnaces, of which two were in Glamorganshire. The annual make was about 17,500 tons of pig-iron.

In 1788, coal was in general though not exclusive use. The charcoal furnaces, in England and Wales, were 24, producing annually 18000 tons. Those burning coal or coke were 53, producing 48,200, being a total yield of 61,300 tons from 77 furnaces. The annual make of Scotland, from 8 furnaces, was about 7000 tons. Nearly a century earlier, Sir Charles Coote and the Boyles were said to have derived a large income from their Irish iron-works; but no iron has of late years been produced in that country. Thus, from 1619 to 1788, the make of iron had increased above fourteenfold, and the improvement in the economy of the manufacture had made at least an equal advance.

In 1619, each furnace produced about 15 tons per annum, or an average of a little above one-third of a ton per week, the fact being that they were only occasionally worked. In 1740, this average had risen to 5½ tons, and in 1788, with charcoal furnaces, to 10½, and with coal furnaces, to 17½ tons, the total make of pig-iron being 61,300 tons, which, in 1796, had become 125,000 tons. At present, the ordinary average yield throughout England seems to be at the rate, with the cold-blast, of 60 to 100 tons per week, and, with the hot-blast, 120 tons; but the produce of some of the larger Welsh furnaces has been as high as 100 tons, and there are instances of a weekly make from one furnace of 130 tons. This prodigious improvement in the manufacture is due to the introduction, at the latter part of the 18th century, of the steam-engine, substituting a continuous for an interrupted blast, and to the increased dimensions of the furnaces, and the practice of working them incessantly.

In 1827, there were 284 blast-furnaces in Great Britain, of which 102 were in Wales, and 126 in Stafford and Salop. In 1840, there were 402 furnaces in blast, of which 182 were in Wales, and the same number in Stafford and Salop. In 1827, the Scottish furnaces were 18; in 1840, they were 70. The average annual export of iron, manufactured and unmanufactured, between 1820 and 1825, seems to have been about 100,000 tons, of which 36,000 were bar. The exports of 1846 were about 500,000 tons, of which nearly one-half was bar. Of this bar the annual consumption of the United States, since 1838, has varied between 23,000 and 54,000 tons. Italy, Germany, Holland, Prussia, and the East Indies, have been considerable, though far inferior, purchasers. The enormous increase in the trade is, of course, chiefly due to the extension of the railway system; but iron has also been extensively applied to water-pipes, cables, the building of ships, and other constructions.

The make of iron in Great Britain, in 1846, is estimated by M'Culloch at 1,750,000 tons, of which about 3-10ths are calculated to be consumed as pig-iron, and chiefly at home. The value of the whole product for that year is computed by the same authority at about 14,000,000*l.*

The increase in South Wales more than kept pace with the increased manufacture of the country. This especially applies to the works situated in Glamorganshire, and taking shipping at Cardiff. In 1813, or thereabouts, these works contained 17 furnaces, yielding annually 44,200 tons of iron, and employing directly between 4000 and 5000 persons. The following table shows their progress:—

Works.	1796.	1820.	1830.	1840.	1846.
Dowlais..... *Tons*	2,800	11,115	27,647	45,218	87,251
Cyfarthfa	7,204	19,010	19,892	35,507	56,278
Plymouth.....	2,200	7,941	12,177	12,922	35,198
Pen-y-daran	4,100	8,690	11,744	16,130	25,612
Aberdare	—	2,626	6,765	10,327	19,175
Taff Vale	—	—	621	4,902	
Pentyrch	—	—	2,412	2,476	6,977
Gadlys	—	598	—	1,345	4,125
Other works.....	—	—	—	3,175	9,000
	16,304	50,157	84,813	132,002	243,616

The column for 1846 states the whole quantity of pig-iron made at the works, of which about 184,608 tons were sent down to Cardiff; the other quantities are exclusive of the iron consumed upon the spot.

The tonnage returns on the Newport Canal give still larger quantities, although none of the works, whence they are derived, are individually as large as either Dowlais or Cyfarthfa, and all are of later date than those about Merthyr. In 1820, about 45,462 tons, and in 1830, upwards of 112,647 tons of iron, came from the upper country into Newport. In 1840, this had risen to 194,459 tons, and in 1847 the Newport returns showed about 240,637 tons.

What will appear surprising is, that the tonnages up these valleys are rather greater than those in the opposite direction. The up-trade is composed of Lancashire ore, timber, pit-wood, hay and oats, and general provisions. Hay and oats form a most important item, from the number of horses kept to drag the iron and cinder waggons about the works. At Dowlais 500 horses were recently employed, and the stables at Cyfarthfa are as large and in as good order as those of a cavalry barrack.

It is not easy to obtain correctly the number of the persons employed in an iron-work, since much of the labour is sub-let to under-masters, or gangers. Sir John Guest, with 18 furnaces in blast, employed directly above 5000 persons, in the proportion of about 80 per cent. male adults 6 per cent. female adults, and 14 per cent. children; and if we assume, generally, from 280 to 300 persons to be employed for every blast-furnace, we shall have a male adult population directly employed about Merthyr, of nearly 10,300 persons, which is certainly under the truth. The payments are in cash, and it will readily be believed, that to provide a regular supply of coin for a work of the magnitude of that last cited, where the monthly wages have amounted to 20,000*l.*, is a business of much care and anxiety. That this enormous increase of trade has been attended by a corresponding increase of population, the following table will testify:—

POPULATION OF MERTHYR TYDVIL.

	Houses inhabited.	Males.	Females.	Total.
1801	1,404	4,273	3,432	7,705
1811	—	—	—	11,104
1821	3,052	9,552	7,852	17,404
1831	4,365	11,840	10,243	22,083
1841	6,413	19,068	15,909	34,977

And between 10,000 and 11,000 strangers are estimated to circulate annually through the town.

The population of Merthyr increased, between 1831 and 1841, 50·8 per cent., being the fifth on the list. The greatest increase, that of West Bromwich, was 70·4 per cent., and that of Liverpool and London only 39·6 and 14·8 per cent. Among the counties, in the same period, the greatest increase was that of Monmouth, 36·9 per cent., and the next to it that of Glamorgan, 35·2 per cent. The increase of Lancashire was 24·7—that of Middlesex only 16·0 per cent.

[*To be continued in next week's Mining Journal.*]

* From the *Westminster and Foreign Quarterly Review*.

TUBULAR FLUES FOR LOCOMOTIVE BOILERS.

[Specification of patent granted to T. Potts, Birmingham, brass tube maker, for improvements in the manufacture of tubular flues of locomotive and other steam boilers.] —*Newton's London Journal.*

The patentee states that he has observed the brazed or soldered joints of the tubular flues of locomotive and other steam boilers (when the tubes are made of copper or brass) to be less prejudicially acted upon by the friction of the sharp grit which escapes from the fire-box, than the copper or brass surface of the tubes; he therefore proposes to line the tubes with a similar description of metal to that now used for brazing or soldering the joints.

The patentee takes what is called "bath metal," composed of three parts of best selected copper and two parts of foreign zinc, and adds 10 ozs. of refined tin to each hundred weight of the metal; he then rolls the metal into a plate or strip, and forms the same into a tubular shape, of the size required (the edges butting together); after which, he anneals the tubes and stretches them, so as to straighten them and bring the edges correctly together. On each of these tubes he places a tube formed of copper, or an alloy of copper; and the compound tube he puts on to a steel mandril, made with a taper of 1-16th of an inch into its whole length, which not only facilitates the withdrawal of the mandril, but also gives additional thickness to that end of the tubular flue which is to be fixed to the fire-box of the steam-boiler. The compound tubes, each having a mandril within them, are then drawn through dies or draw-plates. The patentee says, he has not found it necessary to solder together the edges of the inner tube or lining of bath metal, as it will be sufficiently strong without this being done; and the water cannot pass through because the outer tube is perfect. He prefers to make the lining twice as thick as the outer tube.

The patentee does not confine himself to the exact proportions, above given, of the materials which form the bath metal; neither does he claim the making of bath metal; but what he claims is, the use of a lining of such a preparation of metal for lining tubular flues of copper, and of copper alloyed; the object being to obtain a lining of metal which should be less prejudicially acted on by the passage of sharp grit from the fire, than if the whole tube were made of copper, or of copper alloyed, as heretofore.

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The Metallurgical Treatment of Ores.

By JOHN MITCHELL, Esq., M.C.S., author of *A Manual of Practical Assaying, &c. &c.*

No. XXVII.—[*Continued from August* 26.]

Nos. 15 and 16.—*Specimens from Cornwall, by the Author*—

	No. 15.	No. 16.
Peroxide of iron	48·214	69·741
Protoxide of iron	2·891	traces.
Water	19·420	9·724
Phosphoric acid	1·210	·812
Oxide of manganese	1·408	1·987
Alumina	1·482	4·201
Potash	·184	·701
Soda	·792	
Silica	31·207	11·520
Oxide of zinc	traces.	—
Oxide of chromium	traces.	—
Titanic acid	—	traces.
Copper	—	traces.
Lime	—	1·201
	99·808	99·896

Berthier states that this class of ores may be admixed, either chemically or mechanically, with a great number of substances, according to the formations in which they are found; thus, they may contain: 1. Peroxide of Iron.—2. Carbonate of iron.—3. Phosphate and arseniate of iron.—4. Various alumino-silicates of the magnetic oxide of iron (some few analyses of this class will be cited).—5. Titaniferous iron, in small octohedral grains.—6. The oxides and hydrated oxides of manganese.—7. Carbonate and silicate of zinc.—8. Oxide of chromium.—9. Sulphate of barytes.—10. Phosphate of lime.—11. Carbonates of lime and magnesia.—12. Hydrate of alumina.—13. Pure or bituminous clay.—14. Quartz, and sometimes nodules of copper and iron pyrites, as well as galena and blende. As will have been seen from the analyses, the quanties of water contained in this class are very various.

The manganese is always found in the state of peroxide, and is not combined as phosphate or silica; for on treatment with hydrochloric acid, its presence (if in any considerable quantity) can be ascertained by the liberation of chlorine. Excepting in the case of the alumino-silicates of the magnetic oxide, the silica in these ores is not generally found in a state of combination. It will also be evident that the amount of phosphoric acid present is very variable, and, therefore, will possess a very considerable influence on the quality of iron produced. This, however, will be a point for after consideration. The following are analyses of some of the alumino-silicates of the magnetic oxides:

No. 1.—*Magnetic Grains from Châtillon.*—Peroxide of Iron, 67·3; protoxide of iron, 15·3; water, 6·4; silica, 2·0; alumina, 7·0; clay, 2·0=100. The iron produced by assay amounted to 60·4. The ore itself was strongly attracted by the magnetic needle.

2. *Ore from Narcy* (*Haute-Marne*).—Peroxide of iron, 70·0; protoxide of iron, 15·7; water, 1·6; silica, 4·6; alumina, 5·0; clay, 2·11=99·3. Iron produced by assay, 59·0. These ores owe their magnetic property to a compound of silica, alumina, and protoxide of iron, analogous to the mineral *chamoisite*. When they contain oxide of manganese, they lose their magnetic properties by calcination; because by heat the latter oxide yields oxygen to the protoxide of iron, and converts it into the peroxide. These same ores, even when they are strongly magnetic, give no protoxide of iron on analysis (at least, by the ordinary way), for when acted on by hydrochloric acid, the protoxide is peroxidised by the chlorine produced during the decomposition of the oxide of manganese.

MAGNETIC OXIDE OF IRON.—This ore, in its pure state, consists entirely of iron and oxygen, and contains two equivalents of the peroxide to one of the protoxide of iron. Its per centage composition is: iron 71·78; oxygen, 28·22 =100. When it occurs in the mineral kingdom, it generally contains a little silica and some other matters, and a little magnesia; these, however, generally arise from the gangues accompanying it.

This ore is characterised by its strong action on the magnetic needle, and by the black colour of its powder. It is generally found in primitive countries, forming veins, beds, and even entire mountains. In Sweden, massive magnetic iron is most considerably worked, and it is from the iron produced from this ore that the best steel is made. The Taberg mountain is entirely composed of this oxide, from which locality it is quarried. It is also found in immense quantities in Dannemora, and in Gallivara, in Northern Lapland, as well as in extensive beds in Arendal, in Norway. It is also found at Bogue and Traversalle, in Piedmont; and in the kingdom of Naples, on the sea-shore, a sand entirely composed of this material is found, and treated at the Catalan forge of Avellino. It is found also in large quantities in Russia, more particularly in Siberia, where the variety known as the loadstone is worked. It is found in the Brazils, in many part of India, China, and Siam. In North America it is found in beds in granitic mountains, with very little interruption, from Canada to New York. In Scotland, it occurs in Ust, one of the Shetland Islands, in the serpentine formation; and in England, in the parishes of St. Roach and St. Stephens, and at Treliscoll, near Penryn, in Cornwall The following are some analyses of this variety of ore:—

No. 1. *Ore from Sweden.*—Protoxide of Iron, 31; peroxide of iron, 69=100.

2. *Ore from Villa Rica, Brazil.*—Protoxide of iron, 28; peroxide of iron, 72; oxide of manganese, a trace=100.

THE CARBONATES OF IRON.—There are two varieties of this class—the one, spathose iron, or crystalline carbonate of iron; the second, the compact, or argillaceous, or clay ironstone. The first variety, or crystallised carbonate of iron, is generally combined with carbonate of manganese and magnesia, less frequently with carbonate of lime. The structure is laminated, brilliant, and often rhomboidal. Its colour, various shades of yellow, passing, on exposure, to brown, or brownish black. This ore is abundant in some countries, and particularly in Styria and in Carinthia, where it forms extensive tracts, which extend along the chain of the Alps into Austria and Salsburg. On these tracts the great iron manufactories of Eisenberg and Vordenberg are situated. It is found also on Alston Moor, Cornwall, and in Devonshire, and in very large quantities near Durham, where it is extensively worked. A columnar variety is found in Scotland, in the Isle of Arran, and in the Wednesbury coal deposit of Staffordshire. Pure carbonate of iron contains—

Metallic iron	47·47	Protoxide	61·47
Oxygen	14·00		
Carbonic acid	38·53	Carbonic acid	38·53
	100·00		100·00

But it is never found in this pure state in nature. The following are some analyses of this variety of iron ore:—

No. 1. *Ore from Styria.*—Protoxide of iron, 56·3; protoxide of manganese, 3·3; magnesia, 1·5; carbonic acid, 38·9=100.—Carbonate of iron, 91·6; carbonate of manganese, 5·3; carbonate of magnesia, 3·1=100.

2. *Ore from Remirè, near Vicdessos.*—Protoxide of iron, 53·5; protoxide of manganese, 6·5; magnesia, 0·7; carbonic acid, 39·3=100.—Carbonate of iron, 87; carbonate of manganese, 10·6; carbonate of magnesia, 1·5=99·1.

ARGILACEOUS IRON ORES, CLAY IRONSTONE.—This ore, or the compact carbonate of iron of the coal formation, is the kind principally smelted in England. It is found in immense quantity in Staffordshire, Shropshire, and Wales.

The five following analyses of this class of ore are by Dr. Colquhoun, and are specimens from the Cross Basket Mines:—

	1.	2.	3.	4.	5.
Carbonic acid	32·53 & water	34·62	31·86	30·76	26·35
Protoxide of iron	35·22	45·84	42·15	38·80	36·47
Lime	8·62	1·90	4·93	5·30	1·97
Magnesia	5·19	5·90	4·80	6·70	2·70
Silica	9·56	7·83	9·73	10·87	19·90
Alumina	5·34	2·53	3·77	6·20	8·03
Peroxide of tin	1·16	—	0·80	0·33	0·40
Calcareous, or bituminous, matter	2·13	1·86	2·33	1·87	2·10
Sulphur	0·62	—	—	0·16	—
Protoxide of manganese	—	0·20	—	0·07	0·17
Moisture and loss	—	—	—	—	1·91
	100·37	100·00	100·00	100·06	100·00

The author has also analysed many specimens of this class, and has found, besides the above constituents, very notable quantities of phosphoric acid, potash, and soda.

MUSHET'S BLACK-BAND.—This class of ore appears to be of the same species as the above—the only difference being the larger amount of carbonaceous matter in this veriety. The following are some analyses of this ore from Mushet's *Papers on Iron and Steel*, pp. 122 and 123.

Analyses of Airdrie Black-Band, by Dr. Thompson.—Carbonate of iron, 85·44; carbonate of lime, 5·94; carbonate of magnesia, 3·71; silica, 1·40; alumina, 0·63; peroxide of iron, 0·23; coaly matter, 3·03=100·38.

No. 1, Cairn-hill black-band; No. 2, black-band from the parish of Cadder (the analyses by Dr. Colquhoun):—

	No. 1.	No. 2.
Carbonic acid	26·41	34·39
Protoxide of iron	40·77	53·82
Lime	00·90	1·51
Magnesia	00·72	0·28
Clay	10·10	—
Coaly matter	17·38	7·77
Iron pyrites	2·72	0·23
Water	1·00	—
Silica	—	2·00
	100·00	100·00

LIMESTONE.—The principal constituents of this substance are—carbonic acid lime, magnesia, phospheric acid, silica, alumina, manganese, and the alkalies; the quantities, however, of each vary much, but the limits of the present paper will not allow the author to give analyses of any of the varieties, although he is in possession of many; the same must be said of fuel.

FUEL.—Analyses of various kinds of fuel may be found in previous numbers of the Journal, and have been copied from a valuable report on coal, by Sir H. de la Beche and Dr. Playfair.

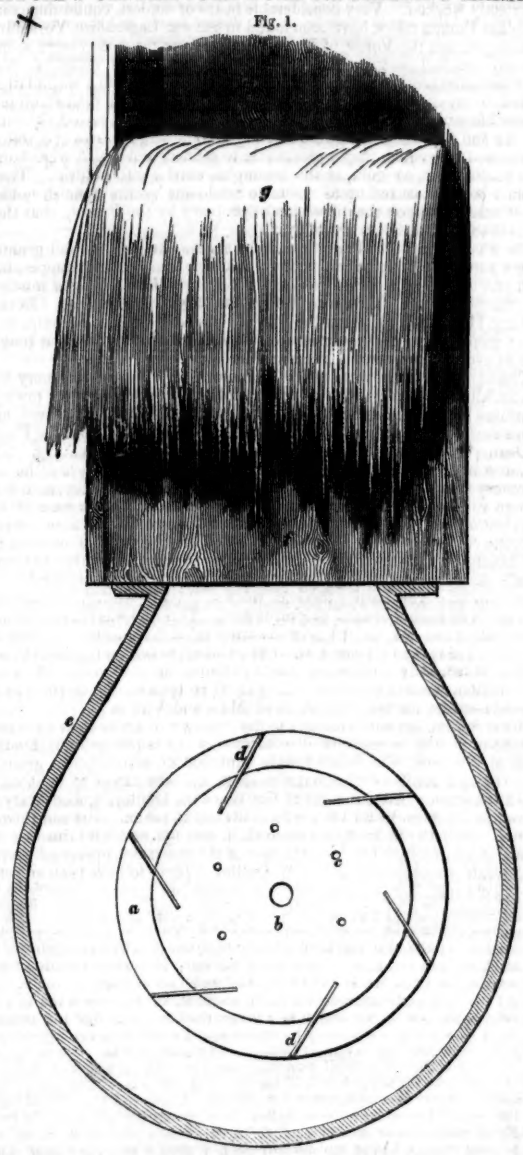
COMPOUNDS OF IRON AND CARBON.—All the iron found in commerce contains carbon, and it is to the amount and condition of existence of this element that the different varieties are formed. There are, however, besides the commercial compounds of carbon and iron, which contain no fixed or definite amount of either constituent, certain substances which are true chemical compounds; that is to say, the amount of both elements is definite. There have, however, only two been examined, although there is reason to suppose there are others.

If ferrocyanide of potassium be heated to redness, and kept at that temperature for a short time, it is decomposed into cyanide of potassium and carburet of iron; the latter may be obtained separate by the action of water, which dissolves the cyanide. This carburet contained 1 atom of iron and 2 atoms of carbon = $Fe\,C_2$, or 70 per cent. of iron and 30 of carbon—hence this is a bi-carburet of iron. The other carburet is obtained by heating Prussian blue in a retort; it contains 2 atoms of iron and 3 atoms of carbon = Fe_2C_3, or 75·6 per cent. of iron and 24·4 of carbon; so that this compound is a sesquicarburet of iron, corresponding to the sesquioxide of the same metal.

The commercial compounds of carbon and iron, are cast-iron, steel, and malleable iron. There are many varieties of the former known to manufacturers, but, chemically speaking, there are but two kinds, which the author will designate as white iron, and grey or black iron. [In the next Journal, the chief characteristics and properties of these various kinds of iron will be entered into.]

APPOLD'S CENTRIFUGAL PUMP FOR DRAINING MARSHES.

Fig. 1.



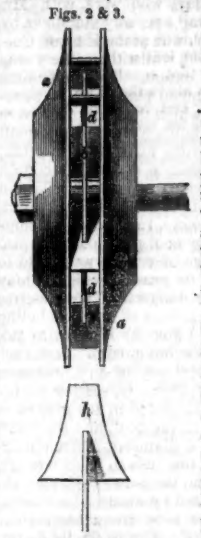
We have been much gratified, in the past week, by the inspection of a rotary pump on a new and simple principle, and which for execution, in proportion to its size, particularly for draining land, is, perhaps, unequalled by any other description of machine for raising water now in use. It consists of two circular sheets of tinned copper, bevelling out towards the centre, somewhat in form of a lamp reflector; these, with a centre plate, 9 inches in diameter, are connected together by six fans, soldered to the outer discs, and into slots in the centre plate. The openings, or chambers, round the periphery are 1 inch in width, and at the centre the outer plates are 4 in. apart. The water is admitted through central openings in the outer discs, 6 in. in diameter, the centre plate thus dividing the cylinder into two compartments; the cylinder turns on an axis, which passes through one of the openings, sufficiently through the centre plate to receive a screw-nut on the other side, and make the whole secure. The cylinder is covered with an iron case, represented in the adjoining diagram, having a rectangular opening on the upper surface, 9 inches by 7 inches, for the eduction of the water, and from this rises a wooden tube, or chamber, 10 inches square, reaching to the top of the apartment. Six feet above the surface of the water, there is an opening in this tube, 14 in. long by 10 in. wide, from which the water is ejected, but which is closed when it is required to carry it to a greater height in the tube. The pump, with its case, is placed in a cistern in the basement storey of the building, 6 ft. ½ in. long, 3 ft. wide, and 3 ft. deep—thus giving, on an average, 9 gallons of water for every one inch in depth; it is worked by a steam-engine of admirable construction, and to which, as also to the pump movement, the most approved means for ascertaining the number of strokes per minute, quantity of water delivered, &c., such as dynamometers, indicators, &c., are attached. By the aid of this engine, the extensive and convenient situation of the premises, and a constant and abundant supply of water, the pump could not be in a more favourable position to give it a perfectly fair and impartial trial.

On the occasion of our visit, the proprietor in the first place, kindly directed the pump to be taken to pieces, which was then cleaned, and from which the drawings for the subjoined diagrams were made. It was then again put together, and, in the first experiment, an open iron tube, about 5 ft. long, and 12 in. diameter, was placed vertically just beneath the rectangular opening in the wooden tube. The engine was then set to work, and the effect was truly astounding. The water instantly rose, rushed through the opening, and not only kept the iron tube full to the brim (although, of course, continually escaping from the bottom), but frequently rose above the top of the 14 in. by 10 in. opening. Several other experiments of 5 sec., 10 sec., &c., timed by a seconds watch, were taken, and were all completely satisfactory, averaging, with 538 revolutions per minute, a discharge of 1093 gallons per minute, which, for a circular opening, 1 in. wide, and 38 in. in circumference, between something like two plates, is, we conceive, a somewhat respectable performance. The wooden tube was then removed, the water in the cistern lowered to a level with the upper surface of the pump case, and on the engine being set to work, we were gratified with a splendid fountain, from a base of 63 superficial inches, of no mean pretensions. On again adjusting the wooden tube, and a slope placed beneath the opening, a powerful waterfall was represented, to the no small consternation of the tubs, baskets, &c., strewed about the premises, and which would have worked a good-sized water-wheel.

In making these remarks, however, we must not be understood to induce the belief that this is an exhibition merely. The pump is kindly shown by the proprietor to gentlemen who may feel an interest in new and successfully mechanical arrangements, to whom it will afford much gratification. The machine certainly appears to us to be most efficient, simple, and hardly possible to get out of repair to any serious extent; and it is but justice to the inventor to say, that he has no idea of patenting it, but leaves it open for the benefit of those who feel convinced of its capabilities, and disposed to use it. We shall next week continue the subject, giving some accounts of the performance of previously constructed models, with 24 and 48 fans, instead of six, which, however, Mr. Appold has found to be the most effective.

DESCRIPTION OF DIAGRAMS.—*Fig.* 1 is a lateral section of the cylinder and iron case, with the wooden tube, above shown in perspective, and the water flowing from the orifice. The distance from the upper surface of the case, to the bottom of the opening, is not in scale, as to have drawn it so, would have lengthened the cut some 11 in. *Fig.* 2 is a transverse section of the cylinder, and *fig.* 3 is a plan view of one of the fans on the centre plate; *a* is the outer plates of the cylinder; *b*, the centre plate; *c*, five holes in the centre plate, by which it is screwed up to a corresponding plate on the axle, or shaft. A sixth hole is omitted, to secure its always being put on the correct way with facility; *d*, the fans, placed at an angle of about 45°, with a line drawn through the centre; *e*, the outer iron case; *f*, the square wooden tube. The axle, or shaft, it will be seen, as described above, has a bearing only at one end, where it passes through stuffing-boxes in the side of the case and cistern, on which is a wheel 6 inches in diameter, worked by a gutta percha band from the driving-wheel of the engine, which is 48 inches in diameter. On the axles of the 6-in. wheel is an endless screw, with which can be thrown in gear, or liberated at pleasure, an indicator, for ascertaining the number of strokes per second, or minute, made by the pump cylinder. Upon the whole, the apparatus appears to us most complete and effective; and we should expect, now the machine is thus publicly described, many, from its economy in construction and its power, will avail themselves of its use.

Figs. 2 & 3.



The Compendium of British Mining.

ORIGINALLY COMPILED AND PUBLISHED IN 1843.

REVISED, CORRECTED, AND ENLARGED FOR THE "MINING JOURNAL,"

BY J. Y. WATSON, ESQ., F.G.S.

No. VII.—THE SYSTEM OF CORNISH MINING.—(*Concluded.*)

The discovery of gunpowder forms a grand epoch in the history of mining, but it is difficult to ascertain the exact time when blasting first came into use among Cornish miners. It was first used in Hungary, or Germany, about 1620, and was introduced into England at the copper mines at Ecton, in Staffordshire, by German miners, brought over by Prince Rupert. It was not known in Somersetshire until 1634, after which the Cornish became acquainted with it; and it is supposed to have been first used in the district of Lelant, Zennor, and St. Ives, by two men, who came from the East, named Bell and Case, and who kept their operations a secret, suffering no one to see them charge the holes, till a man of Zennor, hiding himself upon a bolt, saw what they were about. In blasting, a hole is made in the rock with a steel borer, which hole is one-third filled with gunpowder, the force being confined with a wedge, or by "tamping" over with some soft material, and is then set fire to, by means of a safety-fuse, lighted at some distance, and large portions of the rock, or lode, are forced off. The annual value of gunpowder used in Cornish mines has been estimated at 13,200*l.*, the quantity being about 300 tons, of 2000 lbs. each. The steam-power employed in Great Britain, for mining purposes, may be estimated as amounting to the labour of 150,000 horses, or to that of 750,000 men. The first steam-engine erected in Cornwall (under the plan of Newcomen, who obtained a patent in 1705), was on Wheal Vor Mine, in Breage, between the year 1710 and 1714; the second at Wheal Fortune, in Ludgvan, in the year 1720. Newcomen's were superseded by Watt's engine, in 1778—one of the latter, of 30-in. cylinder, being then at work at Wheal Busy (Chacewater). Pryce describes this engine as working "a pump of 6½ in. in diameter, in two shafts, by flat-rods, with great friction, 300 ft. distant from each other, 45 fms. deep in each shaft, equal in all to 90 fms., 'and as making' 14 strokes, of 8 ft. long, per minute, with a consumption of coals, less than 20 bushels, in 24 hours."

Mr. Watt's great improvements in the steam-engine were—condensing in a vessel distinct from the working cylinder with the necessary use of an air-pump, and making steam the moving power instead of the atmosphere. By those contrivances the working cylinder is always maintained at a temperature equal to that of the steam; and as the condensing vessel is, on the other hand, essentially kept cool, the vacuum must obviously be produced by mechanical means, and not through the medium of steam. To ascertain the amount of fuel saved by working Watt's engines, a *counter* was invented by Mr. Watt, which, being attached to the main beam, marked the number of its vibrations, from which the work done by the engine was calculated, and the amount of coal consumed being ascertained, the saving was found. On the expiration of Mr. Watt's patent, the *counter*, although it was retained in some mines for the satisfaction of the agents, appears to have been generally given up. In 1812, Capt. Joel Lean suggested the plan of placing a *counter* on every engine in Cornwall, and of publishing monthly accounts of the duty performed by them, and the peculiar circumstances of the different engines. The duty is estimated by ascertaining the number of pounds' weight which are lifted one foot high by them, by the consumption of one bushel of coals. Capt. Lean, by most of the mining adventurers, is appointed to fix a counter upon the various engines to be reported monthly; the counter is furnished with a Bramah's lock, the key of which Capt. Lean keeps, and it is inspected by him once per month. Sometimes another counter is attached to the engine, which is open to the inspection of the engineer, the agents of the mine, and the engine-men. A separate party supplies the coals, which are delivered to the order of the engine-men, as they may be required, the orders being first examined and countersigned by Capt. Lean. At the end of each month, the coals not consumed are measured, and thus the real amount consumed is ascertained. This being done, and the counter examined, the *duty papers* are published, and include not only an account of pumping engines, but also of those employed in drawing ores up the shafts, and in stamping ores.

On the adoption of this suggestion of Capt. Lean's, and by the periodical publication of the results, so much emulation was excited in the engineers and enginemen, that by keeping the machinery in better order, by close attention to the fires, and by sundry trivial improvements, the benefits of this measure were almost immediately felt. Until the publication of these accounts, few of the mines had adopted the shallow fire-places; but when the parties concerned found that their credit was at stake, every method was adopted by which a saving of fuel could possibly be effected. The *counter*, therefore, instead of being considered as a direct improvement, ought, perhaps, rather to be regarded as the cause of other improvements. The Cornish pumping-engines of the present day stand pre-eminent, and mines are worked which must long since have been abandoned but for them.

In large adventures the ores are very commonly raised to the surface by steam-whims, one of which is contrived, by the means of flat-rods, to draw from two shafts, and sometimes three; and these engines afford great advantages in working a mine where water is scarce, and horse-whims would be insufficient. The ore and *deads* were formerly brought to the surface by the labour of horses. The difference in expense of steam and horses for this purpose is nearly 50 per cent. From the increased number, and the increased depth of the mines, this work could not possibly be performed at present by horses.

In the eastern district, where water is more plentiful, there are several large water-whims, especially at Fowey Consols and Wheal Friendship, which will be described under the heads of those mines. Where the supply of water is precious, large sums of money are often paid in Cornwall and Devon for the use of it; and no small contrivance is frequently exhibited in turning a stream to the greatest account, which will be seen on referring to Wheal Uny Mine, in the Gwennap district. The Charlestown Mines, in St. Austell, pay 350*l.* per year water rent. In a mine,

called Wheal Leath, which is 160 fms. deep, the quantity of water was so small that, although all drawn to the surface by a steam-engine, it was not sufficient for *stamping* and *dressing* the tin ore raised from the mine; the *country*, or rock, through which the vein passed, was granite.

[*To be continued in next week's Mining Journal.*]

Mining Correspondence.

ENGLISH MINES.

ASHBURTON UNITED.—Capt. J. Kerniek (Nov. 2) reports—Since my last we have extended the cross-cut north of Hobson's, in the 45 fm. level, as I was of opinion that the capels only were cut of the north tin lode, referred to in my report of the 24th June, and, by extending 4 ft., we have cut through the lode, which is 2 ft. wide, and, by my assay, will produce 1 cwt. 1 qr. of black tin in a ton of stuff; the leader of tin in the lode will produce 8 cwts. of black tin in a ton of stuff, and the metal from that equals 18½ in 20—this is the only place in which this lode has been seen above the 55 fm. level, and I have set another cross-cut to intersect it further east, and I am dialling so as to cut the same lode westward from Parry's 35 fm. level. We have now 86 tributers on tin, and are raising as much as our present stamping power can dispatch. We purpose to send from this mine 5 to 6 tons of tin on the Tuesday after next setting day, it being more convenient to the agents than on the setting week.

BARRISTOWN.—Captain T. Angove (Nov. 3) reports—We are driving a cross-cut, south from flat-rod shaft, about 11 fms. under the 16 fm. level, to cut the lode at that depth. The lode in the 16 fm. level end is poor at present. The lode in the adit end is producing about 1 ton of lead per fm. The pitches continue to look much the same as for some time past. We shipped 30 tons of lead this day for the ticketing at Holywell. We calculate on getting from 25 to 30 tons in November month.

BEDFORD UNITED.—Captain J. Phillips (Nov. 8) reports—At Wheal Marquis, the engine-shaft is 9 fms. 2 ft. under the 90 fm. level. In the 90 fm. level east we are still cutting through the capels of the lode. We continue to drive by the side of the lode in the 80 fm. level east. The lode in the 70 fm. level east is about 2 ft. wide, producing good saving work—a promising lode.

— The manager states—The shaft is sunk 9 fms. 2 ft. under the bottom of the 90 fm. level. The ground continuing favourable for sinking, and should no material alteration take place, the men will complete their stent by the end of this month, when we shall commence driving the 102 fm. level. In the 90 fm. level east the men have not yet cut through the capels of the lode, which are larger and more troublesome than we expected; the end has been extended 1 fm. 5 in. during the past month, and the men have now a bargain to cut through the lode and break the north wall, at 10*l*. The 80 fm. level east has been extended 2 fms. 2 ft., partly on the course of the lode, and partly by the side of it, the lode having become hard and unproductive; the present stent is 2 fms., at 10*l*. 10s. per fm. The 70 fm. level east has been extended 1 fm. 4 ft. 2 in., and the lode cut through; it is rather more than 2 ft. wide, composed of spar and black and yellow ore, and altogether presents most promising indications; the present stent is 1 fm., at 9*l*. The pitches set yesterday are as follows:—In the back of the 90 east, 6 men, at 5s. 6d. in 1*l*.; ditto, 6 men, 11s.; ditto, 4 men, 4s.; back of 80 east, 4 men, 11s. 6d.; ditto, 6 men, 7s. 6d.; ditto, 2 men, 13s. 4d.; ditto, 2 men, 13s. 4d.; back of 47 west, 2 men, 12s. 6d.; the other pitches are not reset, but are continued for another month. The quantity of ore broken during the past month is amply sufficient for our next sampling. The whole of the machinery is in good order, and we have had no accident of any description. The whim-engine is arrived, and the whole will be on the mine by noon on Monday.

BWLCH CONSOLS.—Capt. Matthew Francis (Oct. 31) reports—The only thing I have to notice with any degree of novelty in the Bwlch, is that the ore, in sinking the winze under the adit level, in the eastern part of the mine, under the old workings, shows some improvement—the lode now being orey for 2 ft. wide in the sink, with a fine rib of ore in the middle of it, 6 in. wide; the 15 end has not yet reached this ore, but is now very close to it. The 25 fm. level east continues in a very fine course of ore, yielding 3 tons to the fm. for the size of the level, and the stopes in the back of the level are extremely rich—I believe four holes, while I was underground yesterday morning, broke 10 tons of ore. The drawing machine answers very well, but we have not yet discontinued our horse-whim; still as there is something yet to be done in fixing our timber work for this purpose in the shaft, every thing goes on very well in other respects throughout the mine. We have received a letter from Messrs. Harvey and Co., stating that our order for castings is almost completed. We have succeeded in getting another good carpenter, and shall now be making ready to erect the lower crusher, and for the new one coming from Harvey and Co.'s. The buildings for shelter for the dressers, in the severity of winter, are also in a forward state; and I hope we shall not suffer much from this cause of impediment; the shelter for the men to change, and for the ore, is nearly complete to the roofing, and all necessary surface work proceeds favourably.

— Capt M. Francis (Nov. 4) reports—We have to-day let our bargains, and with 62 men calculate to break 107 tons of ore. There are about 30 tons broken in the 25 fm. level, which we could not discharge with our present drawing power in last month, or we should have arranged to break more ore; with this I expect we shall be able to keep our crushing power fully employed, so as to lose no time in dressing—if not, we can let another ore bargain. We are now only working three stopes in the mine. We have shipped this month three cargoes of ore, of 50 tons each, the proceeds of which are 1800*l*., the cost and royalty 800*l*. There is a very good course of ore still in the 25 fm. level, eastward from the engine-shaft, which, I think, will continue under the old workings, 70 fathoms further eastward. The ore stopes are as good as usual. The 25 west will this month be holed to the water winze, when we shall be able to increase our raisings of ore materially, if necessary; but until we get further crushing power, which will be at the end of the month, I think it will be unwise to do so. I hope we shall be able to dress the usual quantity this month—say, 130 tons to 140 tons; the cost will be low—say, 600*l*.

CALLINGTON.—Capt. J. T. Phillips (Nov. 6) reports—The shaftmen at the north mine are now engaged cutting towards the lode in the 112; the ground is rather hard. In the 100 fm. level south the lode is small, composed of iron, spotted with lead. In the 90 fm. level south the lode has not been taken down; in the 90 fm. level, to the east of the great cross-course, we have the Kelly Bray lode; the appearances are of a promising character; the lode is split in branches, composed of peach, spar, and black jack, with good stones of copper ores. We anticipate favourable results as soon as the lode shall become a little more settled; the ground is a soft killas of a light colour. In the 70 fm. level east the ground is more favourable—the lode is poor; the stopes, in the back of this level, will produce 4 tons of ores to the fm. The 50 fm. level has been suspended; the men are put to sink a winze to communicate with the 70 stopes. The stopes, in the back of this level, will produce 2 tons of ore per fathom. At Kelly Bray, we have cut a whim plat in the 20 fm. level, in the eastern end; the lode still continues promising, producing copper ores. At the south mine, in the 125 south, we are opening tribute ground; in the north end the lode is composed of fluor-spar, spotted with silver-lead ores. In the 112 north, and in the rise in the back of the 112 south, we are opening tribute ground. In the 100 fm. level north we have not yet got the lode to the north of the cross-course; the ground is hard.

— Oct. 28.—Capt. W. Barratt furnishes the following report as to the future operations in these mines:—At South Mine, in the 125 fm. level north, the lode is about 1 ft. wide, composed of fluor-spar, intermixed with silver-lead ores—ground hard for driving; I expect a change for the better shortly in this end, as we have much softer ground gone down in the level above, near this point. The lode in the 125 end south is about 6 in. wide, composed of carbonate of iron and silver-lead ores—not rich. The 112 end south is disordered by a slide; we have not seen the lode to the south of it as yet, but expect to do so in the course of a day or two, when we hope to report favourable results; the 112 end north is now near the north channel of elvans, where we expect we shall have good tribute ground for a great many fathoms driving, as have been the case in most of the levels above. The 100 fm. level north is now in a large sparry cross-course, which we have not as yet cut through; in this level we have opened good tribute ground from the south channel of elvans to the said cross-course, which is full 40 fms. in length. As the deeper levels have not been driven through this run of congenial ground, we may reasonably expect an improvement in these levels for a long distance—namely, the 112 and 125. I would recommend your continuing to drive the 112 and 125 ends south, as it would, in my opinion, open good tribute ground still further south, more particularly so as Johnson's and Vivian's lodes are underlying south, and carrying down with it a hard channel of ground, which, if pierced through, I think would be found beneficial to the shareholders, and the samplings soon increased, by meeting with more congenial ground for silver-lead ores further south. At north mine, the engine-shaft is now down to the 112 fm. level, the shaftmen are busily engaged in cutting plat, dividing and casing the shaft, &c.; as soon as this is completed, we shall put the men to drive west, in order to cut the lode with all possible speed, which I consider will occupy, say, from three to four months. At the same time, I would recommend sinking the engine-shaft to the 125 fm. level; my reasons for this is, there is gone down in the bottom of the 100 fm. level a great length of ore ground, upwards of 140 fms. long, that would pay for working at a low figure, if laid open; but cannot be obtained without sinking the engine-shaft and driving deeper levels. If this object should meet your views, I have not the least doubt of your soon realising larger returns from this part of these mines. In the 100 fm. level south the lode is producing silver-lead ores, that will allow tributers to earn fair wages at a moderate tribute; there is about 45 fms. more to drive in this level before a communication will take place between the north and south mines—here is a point that ought not to be lost sight of, as we could then relieve the north engine of a great part of her lode, by reducing the plunger-poles from 13 to 10 in. from adit to the 100 fm. level, and then below this level fix (say) 14-in. lift to pump the water to the 100 fm. level, then what the 10-inch poles would not force up, send the remainder through the 100 fm. level to the south engine, which is not going more than three strokes per minute; this, I presume, would render the north engine available in pumping the water to the 150 fm. level, and afford you an opportunity of opening a great quantity of ground, which I fully believe will be found of great value to all who may be concerned in these mines; the cost of altering these plungers will be but trifling, as we should not have any alteration with the pumps. At Kelly Bray, in the 90 fm. level, we are driving north on the eastern side of the great cross-course, with daily expectations to cut the Kelly Bray lode. The 70 fm. level east is within about 48 fms. of the Kelly Bray engine-shaft; in the back of this level we have been breaking most of the copper ores that have been sampled from this lode, the length of ore ground in the back is about 12 fms. long; the end for some time past has been poor, but the lode is still maintaining its character, full 4 ft. wide, with blende, peach, mundic, and spots of copper ore. The 50 fm. level is about 50 fms. to the west of the Kelly Bray engine-shaft; we have driven through orey ground for about 7 fms. long, the lode for this length I should think would yield nearly 2 tons per fm. We have also commenced stoping the back of the said level, by six men, but have not taken down any lode as yet—therefore we shall be able to judge better of its value when they have taken down a portion of the same, and sent it to the surface. Kelly Bray engine-shaft is now sunk 45 fathoms below the surface; in this level we have commenced driving east and west; the lode in the eastern end is about 3 fms. wide, composed of fluor-spar, quartz, mica, with mundic, and spots of copper ore; this I call a very kindly end, and should recommend driving with all possible dispatch, feeling quite sanguine, in my opinion, that there is a bunch of ore not far from this place; also I consider the engine-shaft should be resumed sinking, in order to cut out deeper levels, and communicate with the 50 and 70 fathom levels that are driving out from the north mine; should these operations be fully carried out with its present indications, I have no doubt on my mind but that the Kelly Bray lode will, as it were, speak for itself before another quarterly meeting arrives; in the meantime, I would beg to observe, that care must be taken on the part of the agents, in order to economise labour, and bring these mines into a profitable state of working.

DEAN PRIOR AND BUCKFASTLEIGH.—Captain H. Choake (Nov. 8) reports—In the 40 fm. level we have just discovered the capels of the north part of the lode; being spotted with ore, we shall put men on to cut through the lode, when we anticipate the most favourable results from the south, or main, part. Driven in the past week, 5 ft.

DEVON AND COURTENAY.—Capt. N. Seccombe (Nov. 7) reports—In the end driving west, in our 40 fm. level, on the gossan lode, the ground continues rather hard; the lode is about 1 ft. wide, composed of spar, capel, and spots of ore. In the end driving east of the 50 fm. level, the lode is 20 inches wide, composed of capel, spar, mundic, and good stones of ore. More water has been recently issuing from the end.

EAST CROWNDALE.—Capt. S. Paull (Nov. 6) reports—The ground in the 17 fm. level, north of Diamond's shaft, continues to be a close blue killas, intermixed with branches of mundic and spar; I expect, by the end of this week, we shall cut the north lode; this level, driving south, is still in Thomas's lode; the size of it we cannot as yet state; it is composed of peach, spar, mundic and killas, and is of a most kindly description. I have not the least doubt but that a course of tin will soon be cut in the lode. The adit level, driving west on the course of Thomas's lode, continues pretty much the same as when last reported upon; the part of the lode we are now carrying is 14 feet wide, composed on the north side of peach, prian, spar, and flookan, on the south side of tin, killas, peach, and mundic, and worth about 30*l*. per fm.; the stopes in the back of this level produce at present about 20*l*. worth of tin per fm. The general character of the lode is better; and I hope, in my next report, to be able to state an increase in the value per fm.; it is 10 ft. wide, composed of peach, spar, prian, mundic, and tin. We have commenced sinking a winze in the bottom of the adit level, on Thomas's lode; the ground is favourable for sinking, and produces about 30*l*. worth of tin per fm.; the lode is composed of peach, killas, mundic, spar, and tin. We sampled, on Monday last, computed 10 tons of crop tin, and 1 ton of seconds; the price of which you will be advised of, so soon as it reaches us. [Ten tons of tin sold on the 31st October at 46*l*. per ton, and one ton at 24*l*.=484*l*.]

EXMOOR WHEAL ELIZA.—Capts. W. H. Whitford and T. Dunn (Nov. 9) report—Since our last we have completed our pitwork to the 12 fm. level, and are now directing our operations to the sinking the engine-shaft; our present lift can master the water easily—therefore, we have reasons to hope our progress will be about 15 ft. per month, as we first stated.

GREAT HEWAS CONSOLS (near St. Austell).—Capt. N. Hocking (Oct. 12) reports—At Corner shaft (21 fms. below the adit level), east of shaft, the lode is 6 ft. wide, worth 18*l*. per fm., and costs 2*l*. per fm. in breaking and sending it to the surface—in this work eight men are employed; nearly all the ground between this and eastern shaft will pay well for working, being a distance of about 30 fms. West of Northey's shaft (9 fms. above the 36 fm. level), in the end, the lode is 3 ft. wide, worth from 50*l*. to 60*l*. per fm.; this end is driving for 5*l*. per fm., by six men, and has a very kindly appearance for holding; about 2 ft. of this is best work, worth about 15s. per sack of 12 gallons, for 70 sacks, and the remaining 1 ft. about 2s. per sack, for 30 sacks per fm. In the rise, west of Northey's shaft, which is 15 fms. above the 36 fm. level, the lode is 4 ft. wide, worth 10*l*. per fm.; this ground is stoped for 35s. per. fm., by 12 men. In the 36 fm. level end, east of Northey's shaft, the lode is 6 ft. wide, producing stones of tin throughout, but at present the lode is in a very confused state, by reason of a large flookan course that has crossed the lode; this is a new discovery by cross-cutting south from the old men's level, and then extending east on the stray of the flookan course. On the north side of this lode there is a small branch, of 3 or 4 in. wide, of very rich work, worth 1*l*. a sack, and is fairly worth 5*l*. per fm. for tin, as it is; six men are employed here. I never saw more water coming out of one end than is coming from this, which I consider to be an indication of something better still in prospect. From what I have seen of the lode at the eastern part of the mine, and the accounts I have had of the western part, I should say, the sooner you erect more whims on the western part of your mine the better, as all the water must be kept out to work the eastern part of the mine: and, if working one-half of the mine will pay more than cost, working all will give a more considerable profit, as there will be no extra water charge.

GREAT MICHEL CONSOLS.—Capt. T. Richards (Nov. 8) reports—The lode in the 45 fm. level, west of the sump-winze, is in its general character exceedingly promising, containing mundic, spar, and fluor, with ore intermixed throughout. In the 35 fm. level west the lode has much of the same appearance, containing mundic, capel, peach, and spar, with a small proportion of ore in places.

HOLMBUSH.—Capt. W. Lean (Nov. 7) reports—The shaftmen are proceeding satisfactorily with the pitwork, previous to sinking deeper. The lode in the 182 fm. level, west of diagonal shaft, is 18 in. wide, producing stones of copper ore. The lode in the 120 fm. level south is 3 ft. wide, producing 2½ cwts. of lead per fm.; the stopes in the back of this level are producing 2 cwts. of lead per fm. The lode in the 40 fm. level south is 4 feet wide, composed of quartz and lead—saving work; the lode in the stopes, in the back of this level, is 4 ft. wide, producing about 2 cwts. of lead per fm. The lode in the 100 fm. level south is 2 ft. wide, composed of spar, prian, flookan, and stones of lead; the flap-jack lode, in the same level east, is 20 in. wide, composed of mundic, capel, and stones of copper ore; the branch of copper ore, to the west of the lead lode, in the 110 fm. level, is at present small; but the same branch, in the 100 fm. level, is 6 in. wide, producing stones of copper ore. We have sampled a parcel of silver-lead ores, computed 30 tons, samples of which have been sent to all the companies, to be tendered for on or before the 15th inst.

KIRKCUDBRIGHTSHIRE.—The agent (Nov. 4) reports—In the 50 end, east of Stewart's, the lode is 2 ft. wide—kindly ground, with good stones of ore in the bottom of the end; in the 50 west, the lode is 3 ft. wide, a good stone of ore in places, worth 3 cwts. of lead to the fm. At Keith's shaft, in the 50 east, the lode is 15 in. wide, with occasional lumps of ore through it—kindly; in the 50 west, the lode is 18 in. wide, improving in size, and kindly, but poor. We have holed the winze to-day in the bottom of the 40 to the 50 end, west of Stewart's. The 30, east of Stewart's, is still in a dead knot of ground. The lode in the rise in the back of this level is 3 ft. wide, worth about 8 cwts. of lead to the fm.—a very kindly lode. The 20 east is not through the black ground yet, but we have casual stones of the bearing rock, with a little lead accompanying it at times. We shipped 40 tons of lead in the *Caledonian* yesterday, for Chester River.

LEWIS.—Captain S. S. Noell (Nov. 4) reports—The lode in the 70 east is 18 inches wide, at present poor, but kindly; the lode in the 70 west, on south branch, is 1 ft. wide, worth 15*l*. per fm. The lode in the 60 east is 1 ft. wide, producing good quality tinstuffs; in the 60 west, on south branch, the lode is 1 ft. wide, worth 5*l*. per fm.; the lode in the winze, sinking under the 60, is 1 ft. wide, worth 8*l*. per fm.; the lode in the 60 east, on Ralph's branch, is 9 in. wide, yielding good quality tinstuff. The lode in the 50 east, on south branch, is 1 foot wide, worth 7*l*. per fm.; the lode in the 50 west, on south branch, is saving work for tin; the lode in the 50 east, on Ralph's branch, is 9 in. wide, with good stones of tin. The lode in the 40 east, on south branch, is 6 inches wide, worth 3*l*. per fm. The south lode, in the 10 east, is 4 in. wide, opening good tribute ground.

LLAWERGWMBACH.—Capt. M. Francis (November 4) reports—In this mine, in cutting down ground to make room for walling the engine-shaft, we have a good course of ore in the north part of the lode; this at so shallow a level, only under the surface about 5 fms., looks well for the future welfare of the mine; this branch is about a foot wide, and in this place quite solid. Our dressing floors and buildings are progressing very satisfactory.

POLSAITH CONSOLS.—Capt. J. Osborne (Oct. 24) reports—In accordance with the request of your committee, I have carefully inspected your mine I find in the north of Tinner's Hill, side of the sett, an adit, driven many fathoms on the course of the lode, and a winze sunk also on the course of the lode, in all of which the lode is very large and regular, varying from 3 to 7 feet in width, producing much gossan, with occasional stones of lead intermixed A shaft has been sunk 12 fathoms below the adit, where the lode appears just as in the adit level; I do not think its appearance holds out a prospect of making much ore at a shallow depth; the shaft is continued sinking, to intersect the lode at a deeper level; the lode has a promising appearance. About 200 fms. south of this, on the Trebetherick side, is an adit, driven a considerable distance on the course of the lode, with extensive workings on the back, made in a former working, evidently showing that nearly the whole of the ground driven through, even at this shallow level, was sufficiently productive to pay for working. There is, in this part of the mine, a perpendicular shaft, sunk about 12 fms. below the adit before mentioned, where the lode is intersected by a cross-cut, and explored north and south; the north end is rather poor (a hard bar of ground having intervened), but the lode large and promising. In the south end the lode is a good size, producing good lead ore—the ground easy. Near this end is a communication from this level to the adit, where there are two pares of tributers at work; the ground all through this will, I believe, pay for working, when it can be done at a proper advantage; and as the lode produced such large quantities of lead above this, it gives additional reason to hope for success. I would recommend pushing forward your 12 fm. level south as fast as possible. There being an old shaft sunk to within about 3 fms. of this level, and the present end not being more than about 6 fms. behind it, when reached, rise against it, hold it, and clear it, and you will then have room for stopes north and south, which will also tend to ventilate your end; then continue to drive the level south, if the lode continues as productive as at present, when you will be able to regularly increase the number of your stopemen, and, consequently, the produce of the mine. I would also recommend the sinking of the shaft in this part, to open your mine deeper. To conclude, I would say that I do not think your mine is likely even to be a very expensive one, as the ground is firm, and will require but little timber—your water easy, not likely to require much steam-power—your sett extensive—lode large and regular, and the southern part of your mine already productive. Under these circumstances, I consider the mine worthy of a good trial, and promising to remunerate the shareholders for their outlay.

PENGRAIG-DU AND CAENANT.—Capt. M. Francis (Nov. 4) reports—In Pengraig-du Mine the deep adit has reached the old ore ground; it appears that, by driving the level westward, it will go through nearly 100 fms. of ore ground, with a back of 50 fms. upon it, and I expect we shall raise a great deal of ore, and have a large profit in working it. The lode in Caenant rise is large, with a little ore in it, but not rich.

SOUTH MOLTON CONSOLS.—Capt. W. H. Whitford (Nov. 9) reports—I intimated in a former report the probability of an improvement in the progress of our driving the 12 fm. cross-cut, and it affords me much satisfaction to find that such has been the case. During the last fortnight we have driven 4 fms. through a stratum of beautiful blue killas, which is perfectly congenial for lead—a proof of which I hope to realise in the course of a fortnight, when I expect to cut the lode.

SOUTH WHEAL BETSY.—Capt. J. Spargo (Nov. 9) reports—In driving on a lode, cut by the east cross-cut, we are breaking good work for lead, the lode is all of 3 ft. wide, 2 ft. of which is beautiful soft spar, with spots of lead, the remaining part is what we term a leader on the foot wall of the lode, which is good work; we have only driven about 3½ ft., therefore we cannot as yet say the value per fm.; the walls are well defined, with soft prian, impregnated with lead, underlying about 15 inches in 1 fm.

SOUTH WHEAL TRELAWNY.—Capt. William Jenkin (Nov. 6) reports—In the 30 fm. level south the lode is 2 ft. wide, composed of barytes, fluor-spar, mundic, flookan, with spots of lead; in the 30 fm. level north we have intersected a small cross-course, which has heaved the lode; we have also driven west to intersect it; there have also been two men driving in the 30 fm. level north on a sparry branch—west of shaft it is unproductive; the water has increased a little.

TAMAR SILVER-LEAD.—Capt. J. Sprague (Nov. 6) reports—In the engine-shaft the lode is 15 in. wide, composed of quartz, spar, and mundic. In the 175 fm. level end the lode 1 ft. wide, composed of capel, with spots of ore. In the 160 end the lode is 2 ft. wide, 18 in. of which is good work; this end has improved very much since last report. In the 145 end the lode is 18 in. wide, composed of can and ore—a very promising end. In the 135 end the lode continues its size and quality, about 4 ft. wide, composed of capel, can, and ore—saving work. At the north mine, the engine-shaft is sunk 10 fms. below the 70 fm. level; the ground is still very hard for sinking; in the 70 end, driving north, the lode is 4½ ft. wide, interspersed with ore, and producing work of a promising character. We sampled on Saturday, the 2d inst., computed 77 tons of rich silver-lead ores.

TAVY CONSOLS.—Captain Goss (Nov. 7) reports—We have cut the north wall of the lode in the 46 fm. level; the distance from the first branch, or south part of the lode, to the north wall that we have now cut is 1 fm. 0 in., the leading part being 4 ft. wide, with an underlie south about 10 inches in a fathom, carrying a well-defined wall on the north; the lode is composed chiefly of spar, interspersed with peach, mundic, and small spots of yellow copper ore, but not of value at present, though it is a very strong promising lode, that will warrant further outlay. In the 24 fm. level the lode is of a very promising character; since we first cut the ore we have driven 1 fm. 4 ft., where the lode has been 3 ft. wide, 2 ft. wide in the back of the end being good work; the lode at present is not so rich as when first discovered, but larger, being 3 ft. 6 in. wide, composed of peach, prian, white iron, mundic, and copper ore—saving work for 3 ft. down the end; and as the shoot of ore is dipping west in driving 6 ft. further, I expect it will be in the bottom of the end. The men in the pitch, in the bottom of the 36 fm. level, are working in good spirits, and their ore is making down.

TINCROFT.—Capt. F. Floyd (Nov. 6) reports—The rise in the back of the 142 fm. level, east of engine-shaft, on Highburrow lode, is worth 35*l*. per fm. for tin. The stopes, in the back of the 120 fm. level, are worth 15*l*. per fm. for tin; the winze, sinking in the bottom of this level, is worth 18*l*. per fm. for tin. On Chapple's lode, in the 100 fm. level west, the lode is 4 ft. wide, with stones of copper ore. In the 90 fm. level west the lode is worth 6*l*. per fm. for copper. In the 80 fm. level west the lode is worth 5*l*. per fm. for tin. Martin's east shaft, sinking below the 120 fm. level, on Martin's lode, is worth 12*l*. per fm. for tin. Dobree's lode, in the 58 fm. level, east of Chapple's shaft, is 4 ft. wide, with spots of copper ore. At Wheal Providence, in the 33 fm. level, east of engine-shaft, the lode is 2½ ft. wide, with stones of grey ore. At North Tincroft, the lode in the 100 fm. level west is worth 4*l*. per fathom for copper; the 100 fm. level east is worth 6*l*. per fm. for copper. The 90 fm. level west is worth 8*l*. per fm. for copper; the 90 fm. level east is worth 15*l*. per fm. for copper. The 80 fm. level, east of Willoughby's shaft, is worth 8*l*. per fm. for tin. Palmer's shaft is now down 9 fms. 4 ft. below the 80 fm. level; the lode is 2 ft. wide, worth 5*l*. per fm. for copper; the 80 fm. level west, on East Pool lode, is worth 9*l*. per fm. for copper. The 70 fm. level west is worth 7*l*. per fm. for copper. We expect to hole Stainsby's shaft to the 16 fm. level in the course of the present week.

TRELEIGH CONSOLS.—Capt. W. Symons (Nov. 4) reports:—The 113 fm. level, north of Garden's cross-cut, on the south lode, is driven 2½ ft., composed of spar, jack, and occasional stones of ore—not yet through it. In the 90, east of ditto, on the north lode, the lode is 2 ft. wide, and worth from 8*l*. to 10*l*. per fm.; this, from its appearance, is likely to improve. In the winze below the 90, on ditto, the lode is 3 ft. wide, and worth 14*l*. per fm. In the 100, west of Garden's, the lode is 2 ft. wide, but very little mineral. In the 70, west of ditto, the lode is 20 inches wide—not much ore. In the 60, west of ditto, the lode is 1 ft. wide, producing good stones of ore, with an improvement in its appearance. In the 50, west of ditto, the lode is 2 ft. wide, orey throughout, but not to value. At Wheal Parent engine-shaft, sinking in the country, the ground is still favourable. In the adit east, on the middle lode, the lode is 1 ft. wide, but little ore.

WELLINGTON MINES.—Capt. M. White (Nov. 4) reports—In handing you a report of these mines for the meeting on Tuesday, the 7th inst., I beg to say, that the engine-shaft is sunk 5 fms. under the 12 fm. level—ground good for sinking. We have opened in the 12 fm. level, east and west of the engine-shaft 27 fms., the lode is about 1 ft. wide, producing good copper ore—the whole of the ground will be wrought at a moderate tribute; these two ends are at present just as they have been for the whole driving. We have sunk Percolly shaft 7 fms. 1 ft. 6 in. under the adit level, and have come to water; the lode is good, from 1 ft. to 18 in. wide; the 12 fm. level is 17 fms. from this shaft. The cross-cut north of the engine-shaft, in the adit level, is going through favourable ground. Our tributers over the adit level are, 4 men at 8s. in 1*l*., 4 men at 4s. in 1*l*., and 3 men at 10s. in 1*l*. We have, since our last sampling, about 50 tons of copper ore at surface, and hope the quality will be just as good as the last sold, but the average will not be so good.

WEST WHEAL JEWEL.—Capt. R. Johns (Nov. 6) reports—In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 2 ft. wide, composed of spar and prian, with a very promising appearance for ore; drove last month 2 fms. In the 57 fm. level west, on the same lode, the lode is 1 ft. wide, and worth 4*l*. per fm.; drove last month 3 fms. In the 57 fm. level east, on the same lode, the lode is 1 ft. wide, and worth 4*l*. per fm.; drove last month 1 fm. 5 ft. 6 in. In the rise in the back of the 57 fm. level, west of Williams's cross-course, on the same lode, the lode is 2½ ft. wide, and worth 8*l*. per fm.; rose last month 1 fm. 1 ft. 6 in. In the 47 fm. level, west of ditto, on the same lode, the lode is unproductive; drove last month 2 fms. In the deep adit, west of Hedge's cross-course, on the same lode, the lode is unproductive; drove last month 1 fm. 3 ft. 6 in. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is unproductive; drove last month 1 fm. 4 ft. Treloanne's shaft, sinking in the bottom of the 12 fm. level, on the same lode, was sunk last month 1 fm. 4 ft. 6 in. In the deep adit, west of Quarry shaft, on the same lode, the lode is 2 ft. wide, producing stones of tin; drove last month 1 fm.

1 ft. Tregoning's shaft, sinking below the shallow adit, was sunk last month 3 fms. 1 ft. 6 in. The stopes west of Pryor's winze, in the back of the 12 fm. level, is working on tribute, and worth 28*l.* per fm.; the stopes east of Pryor's winze, in the back of the 12, are working on tribute, and worth 16*l.* per fm.; the stopes working in the bottom of the 12 fm. level, on tribute, worth 24*l.* fm.

WHEAL SARAH.—Capt. J. Spargo (Nov. 8) reports—Our wheel at the old mine is at work pumping the water out of the old shaft. I hope to-morrow to set some men stoping the lode in different parts of the mine. I hope next week to report more fully on this matter, as well as on the operations in the south part of the mine.

WHEAL TREHANE.—Capt. T. Richards (Nov. 6) reports—The lode in the 55 fm. level north is worth half-a-ton of lead per fm.; in the south end the lode is worth full three-quarters of a ton per fm.; the lode in the stopes in the back of this level, varies considerably in size and quality, producing at present, on an average, about half-a-ton of lead per fm. In the 45 fm. level north the lode in the past week has been very small, but is now increasing in size, and producing good stones of lead; the lode in the stopes, in the back of this level, is without any important change since last report, worth about 9 cwts. of lead per fm. In the bottom of the 30 fm. level north the lode is producing 6 cwts. of lead per fm.; in the cross-cut west, in this level, we have intersected a small branch, composed principally of quartz and mundic, and the ground is now more favourable than it has been for some time past. The lode discovered in Kelly's field is in several branches—altogether 3 ft. wide; it runs nearly parallel with the main lode, and underlies eastward; we have suspended opening on it at present; and, in costeaning eastward, have found some fine stones of gossan, which is no doubt from another lode, and hope soon to find it.

WHEAL TRELAWNY.—Capt. J. Bryant (Nov. 7) reports—At Phillips's shaft we have cut the lode in the 72 fm. level, where it is 3 ft. wide, composed of spar, mundic, can, and lead, worth about 9*l.* per fm. The lode in the 62 end, north of this shaft, is 5 ft. wide, composed of spar, mundic, can, and lead, worth 14*l.* per fm.; in this level south the lode is much improved, worth, at present, 10*l.* per fm.; the stopes in the back of this level are yielding a fair quantity of ore. There is no change of importance in Trelawny's shaft, sinking under the 52, or in driving the 22 cross-cut east. The lode in the 52 end, north of this shaft, is worth 12*l.* per fm.; the stopes in the back of this level are without any material change since my last. The lode in the 42 end, north of this shaft, is a fair size, and is worth 14*l.* per fm.; the stopes in the back of this level are yielding a fair quantity of ore, but the ground is rather hard. At the north mine, the lode in the 30 end, north of Smith's, is worth 4*l.* per fm.—easy ground for driving; the lode in the winze, south of this shaft, is still large and worth 6*l.* per fathom.

WHEAL TRESCOLL.—Capt. J. Webb (Nov. 8) reports—Since I last reported, we have cut the B lode, No. 1, in the 10 fm. level, about 18 in. big, very good indeed for tin—so good, that it will pay the cost of working the mine, leaving out the other 20 lodes that we have to cut in driving north and south in this level. Also our whim-shaft is down to the 10, and I hope to finish cutting the plat by Saturday, and then I shall commence driving north and south to the other lodes. We have one pare of men driving west on the B lode, No. 1, and it still appears to be getting better as we go forward.

WHEAL VINCENT.—Capt. J. Spargo (Nov. 8) reports—We have completed nearly 150 fms. of our open cutting for the wheel-pit, and are still progressing satisfactorily with the remainder. Our shaft is going down with good speed, and, if the ground continues good, they will be able to sink 2 fms. per week—that is, if the water is not faster than at present. I have not measured the depth of the shaft, but I expect they are down about 6 fms.; we have timbered and secured it as we go down. There is no material alteration since last report in the south cross-cut, but we are getting very near the lode; this lode, in the bottom of the old shaft that we have cleared up, is 2½ ft. wide, underlying about 3 ft. in 1 fm., with a very promising appearance, and some good stones of tin; and as soon as we touch this lode by the cross-cut, and have driven a few feet on it, we expect to drain this shaft so as to enable us to sink it a few fms., and drive on the course of the lode under the bunch of tin gone down a few fms. west of this shaft.

WHIDDEN MINES.—Capt. J. Kernick (Nov. 2) reports—The ground is more favourable for sinking in Caunter's shaft, which I expect will be 7 fms below the deep adit by the end of this month. There is no improvement in the lode in the shallow level. There is nothing new in the tributers' workings. The tin left out last week is being dressed, to go with the lot proposed to be sold at the end of this month.

WILLIAM-MARY NORTH MINE.—Capt. W. Bice (Nov. 7) reports—The level, east of old engine-shaft, is cleared to the extent of 30 fms.; there are about 30 fms. more to clear, before we shall have reached the termination of this level. We are also clearing the footway-shaft, in order to have communication to the western part of the mine. The lode in this shaft is 20 in. wide, consisting of soft gossan, flookan, carbonate of iron, with some portions of grey and native silver throughout. Since my last report, I have been enabled to gain information respecting the workings at Oak Shaft; there is a level driven on the course of the lode 4 fathoms, about 15 fathoms from surface; the lode is 18 in. wide, composed of a kindly gossan, flookan, carbonate of iron, and mundic, with portions of grey silver ore, and silver-lead ore. The ground is easy to drive in. The tributers' work is proving well in dressing.

FOREIGN MINES.

AUSTRALIAN MINING COMPANY.—[Received October 27.]

MONTACUTE SETTING, *June* 23.—In the 11 fm. level north, the lode is 2 ft. wide, and will produce 10*l.* worth of ore per fm., and promising to improve. In the place where we intend to sink the winze, on Baker's lode, the lode is not productive, but being in white clay-slate, and showing good gossan, we think it probable that some tribute ground may be laid open there. In the adit, we are opening ground in the neighbourhood of the cross-course, with a view of pursuing a lode discovered in June, and from which we raised some good stones of copper ore, and which is disordered by the cross-course.

TUNGKILLO MINE, *June* 30.—Goad's winze is 6 fms. below the 30; the lode is 5 ft. wide, and will, in the north end of it, turn out 6 tons of copper ore per fm., worth 120*l.* Stephenson's winze is now 4 fms. below the 30, and will produce 1 ton per fm., at 20*l.* The lode in the 40, north of Rablin's winze, is promising, but not yet productive. The lode in the 40 south is also unproductive. We are pushing forward these ends with all dispatch, so as to communicate with the adit from the foot of the hill, and to lay open the fine course of ore seen in Goad's and Stephenson's winzes. I have been through the mine three times this week, and never saw it looking so well as at present.

TUNGKILLO MINE, *July* 7.—In the adit north, on Baker's lode, the lode in the end is 2 ft. wide—not productive. Anstey's shaft is intended to cut Anstey's lode 30 fms. under the adit; it is now 3 fms. below the adit. The horse-whim round is completed; we hope soon to get the whim erected. The water is now about 100 gallons an hour, which the men draw with buckets. When the whim is erected, and pumps fixed, it will be sunk with much greater economy and speed. In Anstey's adit, in the end, there is a large promising lode, containing some stones of green carbonate, and is promising to be productive at a deeper level, and even in the adit, as we advance into the hill. In the 40 end south, on Baker's lode, the lode is 3 ft. wide, and contains some stones of blue and green carbonate. In the 40 end north, on the same lode, the lode is not productive; but as it gets nearer the course of ore, below the 30, the alterations in its dip, and other indications, induce us to expect we shall soon have the pleasure of seeing this a rich level. In Goad's winze, under the 30, the lode is 5 ft. wide in its north end; it will produce 120*l.* worth of ore per fm.; this winze is within 4 fms. of the back of the 40. In Stephenson's winze, under the 30, the lode is 2 ft. wide, and will produce 20*l.* worth of ore per fm., and is very promising to improve; this winze is within 5 fms. of the back of the 40. In the 30 end south, on Baker's lode, the lode is 3 ft. wide, and is not productive; the size of the lode, in the 30 north, on the same lode, is not known; carrying 2 ft. of the eastern side of it, which contains green carbonate of copper, and is exactly the same sort of lode as it was in the same level over the best ore ground. When the 40 is communicated with Goad's and Stephenson's winze, we shall be in a position to stope away the course of ore; but we have yet to prove if it will hold down to the 40; the prospects, are, however, decidedly good, as we find the lode continues its size and regularity. I am most anxious to see the ore in the 40.—Copper ores sent to the port, 112 tons 16 cwts. 3 qrs. 19 lbs.; now on the mine, 28 tons—140 tons 16 cwts. 3 qrs. 19 lbs.

[We have received the foregoing reports from the secretary, who, in reference to the remarks in our City Article of the 28th Oct., says, that their omission in our Journal of that day originated in a mistake, and that they will in future be regularly transmitted for publication.]

[From the *Plymouth Journal*.]

PLYMOUTH WHEAL YEOLAND EAST.—The shoot of difficult ground has been passed through, and the level is secured nearly to the road; the backs are all carried off by the ancients.

WHEAL ASH.—The shaft is being sunk on the course of the lode, which is solid mundic, and is about 7 ft. wide.

WHEAL FRANCO.—There is little alteration since our last.

PLYMOUTH WHEAL YEOLAND.—The lode in the shaft is much improved since our last, the floor of poor ground having been then just broken through.

WHEAL CALSTOCK.—There appears to be no alteration worth notice.

BIRCH TOR MINES.—These leave a little profit on the present very limited working. It is to be regretted that, after an outlay of 2800*l.*, expended in clearing up the adit to the old Vitifer lode, it should have been suspended within about 14 fms. of that lode. The workings of the ancient tinners on this lode are the largest in Europe, a gully (more properly a gulph) having been cut through the granite hill for nearly a mile in length, and to the depth, for the greater part of the distance, of from 60 to 100 ft., and 50 to 70 ft. wide, and the whole of the excavated portions carried to a great distance to be washed and dressed; when this was completed, they cut about three-quarters of a mile in length through granite rock, in order to work the mine about 10 fms. deeper. Added to these proofs of the value of Birch Tor, a parallel lode has returned from 160,000*l.* to 200,000*l.* It is much to be hoped that the advance in the price of tin will induce the adventurers to prosecute this undertaking with vigour.

DRAKE WALLS.—In this mine several pitches which have been idle are to be resumed, in consequence of the improved price of tin.

HEIGHSTON DOWN CONSOLS.—Mr. Hitchins has, we understand, purchased this mine. We learn that large stones of copper are raised in the engine-shaft, the utmost exertions are being made to sink the shaft and develope the mine.

CARADON WHEAL HOOPER MINING COMPANY.

At a two-monthly meeting of adventurers, held at the King's Arms Inn, Launceston, on the 30th Oct., the accounts were examined and passed, showing—Calls received, 483*l.* 15s.; by balance from last account, 32*l.* 0s. 10d.—Labour cost July, 137*l.* 1s. 7d.; ditto August, 189*l.* 4s. 3d.: leaving balance in favour of the mine, 125*l.* 8s. 4d.—From the statement of assets and liabilities, it appeared the assets were the above balance, and unpaid calls, 346*l.* 8s. 2d. =471*l.* 16s. 6d.; while the unpaid merchants' bills amounted to 451*l.* 6s. 7d.: leaving balance in favour of 20*l.* 9s. 11d.—It was resolved, that the meeting be adjourned to Thursday, the 16th instant, to be held at the Globe Hotel, Exeter, to examine the accounts, vouchers, &c., and that notice be given to each shareholder of such meeting.—That the following gentlemen be appointed a committee, to examine the accounts, and present a financial report to the meeting—Mr. H. A. Harvie (chairman), Rev. J. Carthew, and Messrs. Willcocks, Channing, Otton, Prockter, Collings, Jury, Jarvis, Harding, Gillard, Baker, C. Collings, Manley, Watton, Floyd, Huxham, and Keast.—That all defaulters be informed, that unless their calls be paid before the meeting, legal steps will be taken without further notice.—That Capt. Seymour proceed with his present workings, until the adjourned meeting, and that two additional men be placed on Daw's lode.—A report from Capt. Seymour was read, from which it appeared, that the cross-cut north to the 50 fm. level was driven from the shaft 33 fms., where two branches were intersected, about 1 ft. wide; from this point a level was driven west 4 fms. 4 ft., where they were 15 in. apart, composed principally of peach, mundic, quartz, and occasional stones of ore, supposed to be the Saw-pit lode. On the caunter lode a level was driven 38 fms., with a very promising lode in the bottom, and many places on the back, composed of large quantities of mundic, light blue peach, quartz, prian, and occasionally rich stones of copper ore; for 20 fms. east of shaft the average width was 18 in.; from this end a cross-cut was driven south 12 fms. 3 ft. 6 in.; about 5 fms. south of this lode the men intersected what was thought to be Daw's lode; in cutting through it they met with a good bunch of copper, worth from 12*l.* to 14*l.* per fm.; the nature of the lode was such, as gave them a favourable of the mine. From the cross-cut east a level was driven on the course of the lode 3 fms. 2 ft., when it was split into many branches, but kindly, at times producing very rich stones of copper; the ground east was favourable for driving, the price in the 50 being 3*l.* 10s. per fm. Daw's lode, in the 58 fm. level, was cut into 5 fms. south, in a piece of confused ground, between three or four layers of granite, killas, &c., and the lode was in like condition; it was, however, large, composed of peach, capel, quartz, killas, and some small branches of copper, letting out large quantities of water, and which had drawn off all the water from the upper levels; in the cross-cut south of this (driven 16 fms.) the ground was in ironstone, and hard; this, however, it was thought would not last long, and considered congenial for copper; they had expected to cut a lode in the last 3 fms. driven.

EAST TAMAR CONSOLS MINING COMPANY

At a general meeting of adventurers (adjourned from the 28th September), held yesterday, at the offices, 50, Threadneedle-street,—JOHN BROWN, Esq., in the chair,—the accounts were presented, showing—Labour cost for April, 185*l.* 16s. 5d.; ditto May, 348*l.* 14s.; ditto June, 361*l.* 5s. 2d.; ditto July, 393*l.* 15s. 6d.; ditto August, 469*l.* 16s.; ditto Sept., 511*l.* 7s. 8d.; London expenses, 31*l.* 5s. 4d.; discounts, 6*l.* 14s.; freight of 200 tons fluor-spar from Plymouth, 58*l.* 17s. 3d.=2367*l.* 11s. 4d.—By sale of 29 tons of silver-lead ore, at 11*l.* 5s. 6d., 225*l.* 10s.; ditto 30 tons 2 cwts. 1 qr., at 11*l.* 2s. 6d., 334*l.* 18s. 9d.; ditto 53 tons 17 cwts. 3 qrs., at 11*l.* 0s. 6d., 593*l.* 12s. 10d.; fluor-spar, 105*l.* 6s.: leaving balance due committee, 1108*l.* 3s. 3d.—The balance of assets over liabilities was estimated at 487*l.* 10s.

Mr. WOLFERSTAN, at the request of the chairman, explained his views and proposed mode of operations for the ultimate benefit of the mine, which opinions were fully borne out by Mr. West, and other gentlemen, competent to judge; when it was resolved, with reference to the suggestions of Mr. Wolferstan, that in future levels should not be extended at less than 10 fathoms apart; but that, on the contrary, the distance between the future levels should be increased up to the extreme point, which is justified by permanent economy in working, uninfluenced by any temporary effect in the samplings; and that all officers of the mine have instructions to carry out Mr. Wolferstan's views, as exp ressed in this resolution.—A call of 2s. 6d. per share was made.

RUNNAFORD COOMBE MINING COMPANY.

The general meeting of shareholders was held at the George the Fourth, Woolwich, on Wednesday, the 8th inst.

THOMAS CANHAM, Esq., in the chair.

Mr. R. C. MANUEL (the purser) laid before the meeting the accounts for September and October, showing a balance against the company of 123*l.* 7s. 6d. and in order to meet which, and provide for the next two months, a call of 400*l.* was made. From the reports read at the meeting, it appeared probable that, during the next two months, more than 400*l.* worth of tin would be sampled, as the stamps, with 14 heads, is now at work, and the lode in the adit end, also in the backs, is looking well, according to the following report from Capt. J. Chenhall:—

Nov. 4.—Since my last, the lode has been very poor, but is now improving fast; the lode in the end is about 8 ft. wide, with several leaders of tin running through. There are four men in the adit end driving east, at 5*l.* 10s. per fathom, and two in stoping the backs, east of Jeffery's shaft, at 2*l.* per fm., and two, west of Jeffery's, on discoveries. The stamps are in full operation, consisting of 14 heads; we have a large quantity of tin-stuff already stamped, and now in course of dressing. From the present prospects of the mine, we shall be enabled to return, by Christmas, 400*l.* worth of tin.

After hearing the report of the captain, and also the reports of two or three of the adventurers who have recently visited the mine, which gave great satisfaction, a vote of thanks was passed to the chairman, and the meeting separated, with a determination to prove the mine, by applying suitable machinery and sufficient capital, when the mine may require it.

WHEAL BLENCOWE MINING COMPANY.

A meeting of shareholders was held, on Tuesday, the 31st Oct., when the accounts for June, July, and August were presented, showing—Balance due to purser at last meeting, 151*l.* 1s.; cost for June, July, and Aug., 320*l.* 2s. 5d.; merchants' and other bills, 73*l.* 6s. 3d.=544*l.* 9s. 8d.—By tin sold, August 4 (less 1-15th dues, 4*l.* 17s. 4d.), 68*l.* 8s. 4d.; carriage of tin, 19s.; tin sold, Sept. 23 (less 1-15th dues, 7*l.* 4s. 8d.), 101*l.* 5s. 10d.; carriage, 1*l.* 9s.; arrears of calls, 53*l.* 19s. 4d.; law charges, 1*l.* 6s. 1d.; on account of call made July 18, 135*l.* 12s. 1d.—leaving balance due purser, 181*l.* 10s. The accounts were allowed, and a call of 15s. per share made. The following report was read:—"The 30 fm. level has now been driven a distance of 46 fms., and judging from what we have seen of the underlie of the east and west lode in the 15 fm. level, the end is not more than 2 to 3 fms. from the lode; we may, therefore, reasonably hope to cut it in about two or three weeks. The bottom level has recently so drained the winze which we were sinking on the lode from the 15 fm. level, that we are now enabled to resume the workings there; and, during the last week, the men employed there have broken an excellent pile of work; the size of the lode seems to increase, and the quantity of tin-stuff to improve, as we open in depth; the lode, as we now have it, is worth quite 20*l.* per fm. The distance now to be driven, to intersect the more distant east and west lodes (and which were all we knew of when we commenced the 30 fm. level), we calculate to be about 24 fms., and we hope to have accomplished their intersection in about four or five months."

WHEAL WALTER MINING COMPANY.

Another adjourned meeting of the shareholders in this company was held on Wednesday, the 8th instant, when the chair was taken by Mr. HENRY SMITH, and a report was presented by the committee appointed to examine the accounts of the purser and the balance-sheets of the company, from which it appeared that, upon going into the several accounts submitted to the committee, and in the absence of any explanation or papers furnished by the purser, beyond the balance-sheet produced at a former meeting, and which, according to the views entertained by them, contained several errors and omissions, the conclusion at which the committee had arrived, was, that a balance of 109*l.* 3s. 9d. was due from W. Weekes, Esq., the purser to the company; whereas the accounts furnished by that gentleman showed a balance of 115*l.*, or thereabouts, as due to him. It was resolved, that a communication be addressed Mr. Weekes, through his solicitor, to the effect, that the balance shown to be due, according to the report of the committee, be required to be paid within a week from that day, or legal proceedings to be instituted. There being no other business before the meeting, an adjournment took place.

It is only due to Mr. Walter Weekes to state, that he forwarded a cash account, bringing forward the balance, as agreed at a former period; and that he claims of the company about 115*l.*, as being now due to him; while the committee, as appears by their report, bring him in debt about the same amount. This, we believe, may be explained, by merely stating that the committee object to a claim of damage for land, although the same was duly passed at a meeting of the adventurers, which alone involves a question of 94*l.* Another sum of 86*l.* in dispute arises from such amount having been received by Mr. Snell, as solicitor acting for the company, for calls; but which they treat as a private transaction with the purser, and, consequently, the committee have debited the latter with the same; there is also another item or two, which make up the difference. It being clear that the questions do not in any way apply to Mr. Weekes as to his integrity, but from different views being entertained by the respective parties, which, we presume, can only be settled in a court of law. Since writing the above, we have received a letter from Mr. Bridgman on the subject, which will be found in another column.

BALLESWIDDEN MINE.—The following statement of accounts was exhibited at a meeting of adventurers, held at the mine on the 3d inst.—By sale of tin, 416*l.* 10s. 3d.; sundries, 15*l.* 18s. 2d.=417*l.* 8s. 5d.—Wages for July and August, 247*l.* 7s. 11d.; coals, 21*l.* 14s. 8d.; carriage, 8*l.* 17s. 2d.; merchants' bills, lord's and bounder's dues, 103*l.* 18s. 7d.—leaving balance in favour of adventurers, 36*l.* 10s. 1d.

COMBLAWN MINE.—At a meeting of adventurers, held on the 24th Oct., a call of 10s. per share was made. The reports were considered highly satisfactory.

CRADDOCK MOOR.—At the two-monthly meeting of adventurers, held at Liskeard, the accounts for July and August were presented, showing—Balance of last account, 8*l.* 7s. 2d.; call made last meeting, 132*l.*=140*l.* 17s. 2d.—Labour cost, 64*l.* 3s.; materials, 27*l.* 1s.—leaving balance in favour of mine, 49*l.* 13s. 2d. The accounts were passed, and a call of 5s. per share made. It was resolved, "That the workings at the engine-shaft be suspended for the present; and that four men be employed in endeavouring to find a cross-course and the West Caradon lodes, near the boundary of our sett adjoining West Caradon." The following report was presented to the meeting:—"The lode we expected to cut very soon after last meeting, in the cross-cut north, proved poor; and as the level driving east still continues in very hard ground, another branch of elvan having come in, it may be best to suspend the operations at the engine-shaft, and turn our attention to the ground near West Caradon, where the lodes approaching Craddock Moor continue good—particularly Vivian's lode, in the 17 fm. level, now about 80 fms. from Craddock Moor, which is producing 3½ tons of ore per fm., worth near 30*l.* The 27 fm. level, on Gilpin's lode, is also very good; and they have, since last meeting, discovered a new lode in West Caradon, north of Gilpin's, which also must run through Craddock Moor, We should propose that these lodes be found in Craddock Moor by costeaning, and that a shaft be sunk in one of them near a cross-course, if possible."

GONAMENA.—At the two-monthly meeting of adventurers, held at Liskeard, the accounts for July and August were presented, showing—Labour cost, 266*l.* 3s. 4d.; materials, 89*l.* 9s. 8d.; balance of last account, 65*l.* 12s. 11d.=421*l.* 5s. 11d.—Call made last meeting, 384*l.*—leaving balance against mine, 37*l.* 5s. 11d. The accounts were passed, and a call of 30s. per share made. The following report was presented to the meeting:—"The engine-shaft is down 11 fms. under the 55 fm. level; and a 66 fm. level has been commenced, and driven 4 fms. on the course of the lode east; the lode in the end is 18 in. big, composed of peach, spar, &c., but no ore; the 55 fm. cross-cut is driven south 40 fms.; and we expect, by employing six men, to be able to reach the bridge lode in about a month. We have a pitch working by four men in the back of the 45 fm. level, at one-third tribute; and six men are employed sinking under the level on the same shoot of ore. We expect these 10 men will raise 20 to 30 tons of ore in the next two months. The West Caradon adventurers have driven their 17 fm. cross-cut north to within about 5 fms. of Gonamena sett, and have there cut a new and very promising lode. It will be in Gonamena a few fathoms east of where it is cut. Gilpin's lode in West Caradon has been cut in the 60 fm. level, and is also, on the east side, very near Gonamena. Both these lodes will shortly be worked eastward on account of Genamena adventurers; and it is also desirable that Gonamena adventurers should take up and continue West Caradon 17 fm. cross-cut, in order to ascertain whether there may not be other lodes in the 30 to 40 fms. of unexplored ground. We look forward to most of our workings being in this part of the sett, and to suspending the north part of the mine, for a time, after the ore now working on be got up, and provided no new discovery be made there."

POLSAITH CONSOLS.—A general meeting of adventurers was held at the Red Lion Inn, Liskeard, on Wednesday, November 1, when it was resolved, that the mine in future be divided into 200 shares; a call of 1*l.* per share was made. Captain Faull reported to the meeting a continued and progressive improvement of the lode working on the Trebetherick side, both in the south end and in the tributers' pitches, since Capt. Osborne's inspection. He reports a small parcel of lead to be ready for sale, samples of which will be forwarded early next week; and that the dressers are constantly employed dressing the tributers' lead, and that raising in the end.

SOUTH WHEAL FRANCES.—The following statement of accounts was submitted to a meeting of shareholders held on the 6th inst.:—Balance in hand, end of July, 594*l.* 16s.; ores sold, Aug. 3d, 1872*l.* 10s. 11d.; ditto Aug. 31st, 1538*l.* 7s. 2d.; ditto tin, September 27th and August 27th, 437*l.* 4s. 4d. = 3942*l.* 18s. 5d.—Labour cost for Aug., 541*l.* 15s. 3d.; ditto Sept., 599*l.* 16s. 10d.; merchants' bills, 698*l.* 9s. 2d.; dues, 223*l.* 4s. 2d.: leaving balance in favour of the mine of 1884*l.* 13s.—Dividend 10*l.* per share, 1240*l.*; balance, 644*l.* 13s.

WELLINGTON MINES.—At a meeting of adventurers, held on Tuesday last, at the offices, George-yard, Lombard-street, the accounts for July and August were submitted, showing—Cost, 376*l.* 7s. 5d.—Returns, 282*l.* 6s. 8d.—leaving balance against the mine, 94*l.* 0s. 9d. Resolutions were passed, receiving the same, and to divide the amount, *pro rata*, amongst the shareholders.

WEST CARADON.—At the two-monthly meeting of adventurers, held at Liskeard, the accounts for July and August were examined and passed, showing—Ores sold in August, 2007*l.* 1s. 3d.; carriage paid by purchasers, 64*l.* 0s. 1d.; ores sold in September, 2429*l.* 12s. 7d.; carriage paid by purchasers, 79*l.* 6s. 7d.; less lord's dues, 285*l.* 4s. 4d.=4294*l.* 16s. 2d.; materials sold, 84*l.* 5s. 5d.=4829*l.* 1s. 7d.—By purser's, agent's and clerk's salaries, and counting-house expenses, 94*l.* 5s.; engine, smith, carpenter, &c., 166*l.* 19s. 11d.; tribute and tutwork, 1513*l.* 3s. 11d.; pitmen, surface work, &c., 257*l.* 19s. 10d.; charges on ore, 549*l.* 4s. 5d.; doctor and club, 40*l.* 1s. 3d.; merchants' bills, 932*l.* 15s. 9d.; sundries, 22*l.* 7s. 4d.; property tax on profit, 19*l.* 5s. 7d.—leaving a profit of 732*l.* 18s. 7d., to which add balance last account, giving a total amount of 2852*l.* 5s. 1d.; from which deduct dividend paid in September, 640*l.*, and for purchase of 53 shares in Wheal Agar, at 5*l.* per share, 265*l.*—leaves balance in hand of 1447*l.* 5s. 1d

WHEAL MARY CONSOLS.—At the two-monthly meeting of adventurers, held at Liskeard, the accounts for July and August were examined and passed, showing—Labour cost, 1041*l.* 13s. 11d.; merchants' bills, 173*l.* 3s.; portion of Wheal Sister's charge, 60*l.*=1274*l.* 17s. 8d.—Copper ores sold, 1276*l.* 10s. 4d.; tin, 201*l.* 6s. 11d. (less lord's dues, 79*l.* 3s. 7d., and belonging to Wheal Sisters, 145*l.* 10s. 4d.)=1258*l.* 3s. 4d.; materials sold, 17*l.* 17s. 11d.—shows balance against the mine of 3*l.* 16s. 5d., which, together with share of loss on Wheal Sisters, 25*l.* 3s. 1d., deducted from balance of last account, 223*l.* 10s. 3d., leaves balance in hand, 194*l.* 10s. 9d. It was resolved, that the workings with Wheal Sisters, as agreed to at last meeting, be continued until the meetings in December next, when the question of permanency be consided. It was also resolved, that Capt. Nance's recommendation to fix flat-rods in the 25 fm. level, for the purpose of draining the lode under the 50, be carried into effect, with a view of sinking a shaft hereafter, provided the lode is found to continue good in depth; and also that four men be employed to drive the 25 fm. level south, to cut the copper lode, provided the lords will allow 2*l.* per man per month towards the cost. The following report, from Capt. James Nance, was read:—"The prospects on the tin lode are becoming gloomy; consequently we have limited the workings there to the driving of the 35 fm. level end east by two men, and one pitch working in the back by three men, at 13s. 4d. On the south tin lode we have one pare of men employed, at 12s. in 1*l.* The south copper lode, in the 50 fm. level end east, is about 4 ft. wide, composed of quartz, capel, and ore, driving by two men, at 12s. in 1*l.*; the lode in the western end is at present poor, driving at 90s. per fm. by two men; we have 44 men employed in the back and bottom of this level, at an average tribute of 9s. in 1*l.*—lowest tribute, 6s., highest tribute, 12s. The lode in the 60 end, driving west from Wheal Sisters, is about 2 ft. wide, composed of quartz, capel, and a small proportion of ore, it shows indications of improvement; the stope in the bottom of this level has yielded about 13 tons of ore in the past two months, but at present the lode at this point is very poor and hard. The late stopers are now employed in sinking to prove the lode at a greater depth. We find no obstruction here from the water, the bottoms being perfectly drained, though situated 40 fms. west of the 70 fm. level at Wheal Sisters. From the circumstance of the lode beang so porous, we are led to hope that it will again soon improve. We estimate that the returns for the present two months will be—copper ore, 220 tons, and tin, 3 tons. We beg to suggest, for the consideration of the shareholders, the propriety of sinking a new shaft from surface, to communicate with the long winze in the 25 fm. level; and meanwhile to fix flat-rods in the 25 fm. level from the engine-shaft, for the purpose of draining the lode under the 50, to enable us to sink on the course of the lode. We would particularly call their attention to the necessity of attaching flat-rods without delay, or the quantities of copper ore for the future must considerably fall off. The expense of rods, pulleys, and a 6-inch lift will not exceed 50*l.*, in addition to the materials on the mine available for the purpose."

WHEAL SISTERS.—At the two-monthly meeting of adventurers, held at Liskeard, the accounts for July and August were presented, showing—Labour cost, 259*l.* 7s. 11d.; materials, 56*l.* 7s. 2d.; lord's dues, 14*l.* 1s. 6d.; share of loss in Wheal Mary Consols, 12*l.* 19s. 6d.=342*l.* 16s. 1d.—Received for copper ore, 145*l.* 10s. 4d.; for tin, 86*l.* 3s. 8d.; engine charges paid by Wheal Mary, 60*l.*; share of Wheal Sister's loss paid by ditto, 38*l.* 2s. 7d.—leaving balance against adventurers, 5*l.* 7s. 10d. The accounts having been passed, it was resolved, "That the workings be continued under the arrangement with Wheal Mary adventurers agreed to at last meeting, until the meetings in December next, when the question of the permanency of said arrangement is to be further considered." The following report was presented to the meeting:—"In the past two months our operations have been principally confined to driving

the 40 fm. level east on the copper lode, the 40 cross-cut south towards the tin lode, and the 25 and 14 fm. levels east on the tin lode. We discovered the lode in the 40, to the east of the heave, soon after the last meeting, and have driven on it about 3 fms.; near the cross-course it contains a branch of ore 4 to 6in. wide; in the present end the ground is hard, but, from the quantity of water issuing from it, we are expecting a change, and that the lode, now about 2 ft. wide, with good stones of ore in it, will improve. We have not yet reached the tin lode in the 40 fm. cross-cut south; this cross-cut is now extended from the copper lode about 60 fms. The tin lode in the 25 fm. level end east is about 3 ft. wide, and very coarse in quality; the driving of this end is at present suspended; we have two pitches working in the back of this level, each at 12s. in 1*l*. The lode in the 14 end is about 12 in. wide—back and end set on tribute, at 12s. in 1*l*."

BLAST-FURNACES—REMARKABLE ACCIDENT.

SIR,—In your Journal of the 4th inst., I perceive a question put by an "Old Subscriber," relative to the cause of an explosion in the blast-pipes of a furnace at Merthyr. As perhaps my pointing out the cause and remedy may prevent similar accidents, I am induced to send some observations on the subject. Such accidents are caused by the carbonic oxide gas generated in the furnace drawing back, or rather being forced back through, the hot-blast stove into the cold-blast pipes, and to the regulator, when the engine is stopped, and, then mixing with atmospheric air, forms an explosive mixture, which, on starting the engine, is forced into the furnace, and explodes, often producing the most disastrous results. To prevent such accidents, this simple rule should be observed—never start the engine when any valve is open between the regulator and hot-blast stoves, and *blow through* the regulator previous to opening the valves. A greater precaution is to have *two* valves between the stoves and the nosles, by which one can also *blow through the stoves* previous to turning the blast on the furnace. By observing this rule, no explosion can take place. Double heat-valves would be far preferable to the slide-valves generally used, as no gas could draw back through them when down, which is not the case with the generality of slide-valves; the partial vacuum, which is always formed in the regulator, after stopping the engine would then be supplied with cold air through the cylinder-valves, instead of with gas through the stoves.—JOHN PLAYER: *Bryn Amman, Nov.* 7.

LIABILITY OF ADVENTURERS.

SIR,—I heard it mentioned, in casual conversation the other day, that several actions were pending against shareholders in certain "knacked" mines in the county of Devon. Upon the principle, I presume, that individuals are liable for the whole debts of a mine, these actions have been brought, and particular parties singled out as "good men," against whom the merchants and other creditors are firing their legal bullets. The injustice of this is increased by the fact that, in the present cases, the defendants, it is said, have always paid up their due proportion of costs.

As the guardians of the mining interest, Mr. Editor, can you not inform the public—1st, whether it be not a fact that Mr. Wyld added a rider to the new Act for winding up joint-stock companies, to the effect that all companies formed for working mines, *out of the jurisdiction of the Stannaries*, should come under the operation of the Act?—2nd. Is it not a fact, that the Staunary Courts have no jurisdiction in the county of Devon?

I believe the latter has been lately decided in some court of law, when and where you will doubtless know; and would it not, I ask, be giving a just and wholesome lesson, for the defendants in the several actions *at once* to bring the companies under the operation of this Act, make the creditors prove their claim before a Commission of Bankruptcy, and give them (the defendants) the opportunity of enforcing due proportions from those shareholders who are not called upon to pay.—J. J. J.: *London, Nov.* 1.

[Some remarks on this communication will be found in another column.]

ST. JOHN DEL REY MINING COMPANY.

SIR,—Some days since I called at the office of the St. John del Rey Company, and looked at the recent accounts from the mines, which, in truth, are splendid. On my asking the secretary what would be the dividend to be declared this month, he said he believed 15s. per share. I could not but remark that, with a balance of 19,000*l*. to the credit of last half-year's profit and loss, and a monthly profit made ever since of upwards of 2000*l*., the shareholders had a right to expect at least 20s. per share now, which would leave a quite sufficient surplus on hand. It is very far from my desire to advocate the payment of a dividend not authorised by the profits made, and the present position of the company; but, giving due weight to proper prudential motives, I cannot see that a dividend of 20s. per share, on 11,000 shares, might not with propriety be paid out of 22,000*l*. to the credit of profit and loss. I have been a shareholder from the beginning, and now hold 400—not as a speculation, but for income; the interest I naturally take in this company must necessarily be identical with that of many others of your readers, which induces me to request the favour of your inserting this in your next Number.—J. B.: *City, Nov.* 9.

WEST UNITED HILLS MINING COMPANY.

SIR,—In perusing the proceedings of the West United Hills' meeting, held at the Queen's Arms Hotel, Cheapside, London, on the 27th Oct., announced in your Journal of the 28th, I feel it necessary to say, for the information of the adventurers generally, as well as on my own account, that some misunderstanding existed between the committee and myself, as to the *nature* of the meeting convened. It happened, Sir, that you were deputed as proxy to attend, and on hearing the minutes of the previous meeting read, I am sure will do me the justice to admit, that neither the cost-book, or any other book, or books, were requested by the minutes of that meeting; and the accounts having been seen, examined, and allowed, so recently as the 8th Sept. last, I cannot conceive it necessary, or that it was the desire of any adventurer to resume an investigation of the *same*. So much for the question as regards the absence of the cost-book. Another statement I find desirable to correct, as a wrong inference appears to have been drawn by some of the parties present—I refer to the banking account. I am sorry that no one, on that occasion, recollected the fact of my having referred to this *liability* when *present* on the 8th Sept., and pointing out the authority on the cost-book, duly given by the adventurers at one of the general meetings. Perhaps, this circumstance was forgotten, and is my apology for troubling you with these few remarks.

Truro, Nov. 2. THE PURSER.

[We regret that a misunderstanding should, at any time, exist between the committee and purser of a mine, but think that our correspondent, on reflection, will admit that the cost-book *should* have been produced; while as to the *nature* of the meeting, the circular appears to us sufficiently comprehensive. The minutes of the preceding meeting were read from a paper (not the cost-book), with many erasures and alterations, there being no evidence of who were *bonâ fide* proprietors—a question even having arisen as to Mr. Paul Rabey, jun.; and, furthermore, in the absence of accounts, and the statement of the chairman, and others present at the meeting of 8th Sept. last, that they were not cognizant of any moneys being due to any bankers by the adventurers, but which must be considered as a private transaction of the purser—the meeting considered that no business could be entered upon without the cost-book being produced. To resume the investigation was not, we believe, contemplated, but it surely was regular that the cost-book should have been laid on the table. Had such been the case, no question would, doubtless, have arisen as regards the banking account, but in its absence there was not the slightest evidence. We think the meeting acted right in adjourning, and doubt not all will be put right at the next meeting.]

NORTH BRITISH AUSTRALASIAN COMPANY.

SIR,—It is fit that such of your readers, as feel interested in the matter, should be informed that the dispute of the North British Australasian Company with my son and Mr. Heale, was not decided in favour of the company, but in favour of Whitaker and Heale. I am noticing some observations at page 206, in your paper of Oct. 28, where it is said the decision was in favour of the company. The company moved for an injunction, to restrain Whitaker and Heale from working their mine, and the injunction (after affidavits filed and argument) was refused.

Seeing that a Mr. Taylor, at the time he was writing the observations I am about to refer to, was the manager of the company, that a sad defeat had been sustained, and that the company's affairs were not in a flourishing condition, it is not unlikely that, from causes and motives, and for purposes easily discoverable, the observations in your paper, from first to last, relating to the company's *successful* litigation, and Governor's Grey's estimate of the morality of Whitaker and Heale, are from his pen; but whether the successful litigation part be his or not, that part which relates to Governor Grey's opinion of my friends is confessedly derived from him. He says, that Governor Grey "had forbidden Messrs. Whitaker to proceed [at this mine], being persuaded that they had procured their titles by misrepresentation." Now, I hope to find, upon better acquaintance, that Mr. Taylor's genius is of a poetical cast, and that where realities are wanting, he is in the habit of having recourse to his imagination; for I confess I wish to pursuade myself, that the "persuasions" of Governor Grey, as to the moral, or rather immoral, character of my friends, have, indeed, been "misrepresented," and that Governor Grey had more generosity, more discretion, a higher sense of justice, and a greater regard for his own character, as governor of New Zealand, and as a man, than he would be entitled to claim if, in the absence of the possibility of his being in the possession of a tittle of proof (and the impossibility that he could be so is a fact), he, nevertheless, gave publicity, through Mr. Taylor, or anybody else, to any suspicion his fancy had created, that Messrs. Whitaker (I quote Mr. Taylor) had been so weak and wicked, as to make use of misrepresentations at the Colonial Office; for he must have been aware, that by letting his "persuasions" escape from his own bosom, injurious accounts—such as that I am commenting upon—representing my friends as having been guilty of a disgraceful attempt, by means of falsehood, to impose upon the Colonial Secretary, would be very likely to find their way into the English newspapers, in the absence of the persons suspected, and without any opportunity being afforded them of at once contradicting, or refuting, the scandalous imputation. Sir, I am as certain as a man can be who was not present, that no misrepresentations were ever made; and I must have better evidence than Mr. Taylor's, before I can believe that Governor Grey did suffer the opprobrious expression, "misrepresentation," to escape his lips; for, be it observed, that admitting, for a moment, that the guilt of Whitaker and Heale will, by-and-bye, be made to appear as clear as daylight, still the conduct of Governor Grey would be very culpable, and also very unconstitutional, seeing that, from the benignity of English legislators, every subject of her Majesty is presumed to be innocent until guilt—not shall be, but has been, established; and any vicegerent of the Queen who suffers prejudice, partiality, resentment, private pique, personal dislike, or interested interference, to influence him, in any manner, in the performance of the high duties he has to discharge in her Majesty's honoured name, will be found to be taking the shortest possible way to bring her Government into contempt.

Bampton, Oxfordshire, Nov. 6. FREDERICK WHITAKER.

REAL DEL MONTE MINING COMPANY.

SIR,—In the course of many inquiries, and much conversation, regarding this company, it has been incidentally objected by some that, in our prospectus, we state that, in "four years," we shall unwater the mine, by means of the Aviadero adit—a period far too remote to serve as an inducement to present enterprise. I beg to offer a few explanations through the medium of your columns, although, had the *whole* prospectus been read with moderate attention, I think no such explanations would be necessary.

The great adit level of Aviadero having been driven already 900 varas from its mouth, will, if continued, very shortly intersect (besides many smaller ones) the great trunk vein of Valenciana; this will at once unwater that district, and give the opportunity of working from the point of intersection each way on the main lode in *virgin ground*: thus, as it were, forming a distinct and separate mine, not requiring, nor subject to the accidents of, machinery. On this lode, of character and known value, if a discovery was made, it would at once enable the adventurers to prosecute the continuance of the Aviadero adit with vigour, taking advantage of any shafts in succession which are already down to the requisite depths, from whence two sets of miners may work each way for the completion of the whole adit; and unwater, in succession, Valenciana, San Felipe, Moran, and Acosta veins, and a vast number of minor ones.

It is this completion of the whole Aviadero adit which the prospectus states may occupy four years. By adopting the plan of progressive extension, the adventurers will have true economy for their basis, by making the various mines support themselves, and introducing by degrees the tutwork and tribute system, so advantageously known in Cornwall. It is obvious to an attentive observer of Mexican Mines, and the few published statistics we possess, that the greatest success has always attended the exploration of the trunk veins: for example, the Regla and the Biscaina, the former of which yielded to its owner more than 1,000,000*l*. sterling; also the Retta Grande, which, for 200 years, yielded bonanza after bonanza to an almost incalculable amount. Why should not similar results attend the Real Del Monte, after the enormous outlay, generally judiciously expended, and long before the completion of the great adit—the Aviadero?

In conclusion, I beg to observe, that there appears to be a determination on the part of the public to support the revival of the company; and, as we desire to be completed by the sailing of the December packet, I have endeavoured to remove a misapprehension (such as it is) as to the period when we may expect a profitable return.—J. H. FAGAN: *Warnford court, Throgmorton-street, Nov.* 10

Letters from Santiago, to the 7th Aug., mention that upon all silver exported from the province of Atacamu a tax of 1 per cent. per marc would be enforced.

Advices from Valparaiso mention, that a shipment of about 500 tons of copper was being made from Ariaca for London.

Several English miners leave England this week for the Asturian Company's mines in Spain, to work the iron. The report of the directors is favourable, and the aspect of affairs improving. The committee advise the calls being paid in advance, to enable them to carry on the works with greater vigour. The want of capital alone, it appears, has prevented the company's prospects assuming a brighter appearance.

PRINCE ALBERT A MINER.—On Tuesday last, Lady Basset's court for her tenantry at the Barton of Penwerris, was held at Selley's Hotel, Falmouth, on which occasion Mr. Marriot, her ladyship's steward, announced that Prince Albert had set to work a mine in St. Ann's parish. It did not appear that it was clearly known which mine had been taken in hand, but it was supposed to be that of Polberro. Though these operations were stated to be undertaken at the personal risk of the prince, it is understood they are to be carried on by the duchy, over which his royal highness presides as guardian of the Duke of Cornwall. The employment thus given to the miners promises to make the prince very popular amongst them.

INCRUSTATION IN STEAM-BOILERS.—M. Cavè, the eminent French engineer, announces that he has ascertained that a number of small oak blocks, thrown into steam-boilers, has the effect of completely preventing incrustation, and that it is sufficient to renew them about twice a fortnight.

THE NEW JOINT-STOCK BANK.—A preliminary meeting of several respectable City gentlemen was held, on Wednesday last, to consider the expediency of establishing a new joint-stock bank, on the Scotch system, under the title of the British Bank. After a very clear and able statement from J. M'Gregor, Esq., M.P. for Glasgow, and late Secretary to the Board of Trade (who was called to the chair), explanatory of the principles on which the proposed bank was to be conducted; resolutions were unanimously passed, appointing a committee of three gentlemen present, including the chairman, who was authorised to adopt such measures in furtherance of the undertaking as they might consider requisite. This committee are to report the result to an adjourned meeting, to be held in the City on Wednesday, the 22d, when it is expected a list of directors will be submitted.

Among the public works to be undertaken during the winter season will be the viaduct over which the western railroad will cross the Chaussée du Maine at the Barrière du Maine, between the present and the new station. This viaduct will be formed upon a single arch of cast-iron, upwards of 65 ft. in span, springing from abutments of solid masonry.—*Galignani.*

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Royal Botanic—Inner Circle, Regent's Park	3½ P.M.
	Westminster Medical—17, Saville-row	8 P.M.
MONDAY	Geographical—3, Waterloo-place	8½ P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
TUESDAY	Medical and Chirurgical—53, Berners-street	8½ P.M.
	Zoological—11, Hanover-square	9 P.M.
	Syro-Egyptian—71, Mortimer-street, Cavendish-square	7½ P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Geological—Somerset-house	8½ P.M.
THURSDAY	Royal—Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
SATURDAY	Asiatic—5, New Burlington-street	2 P.M.

GREAT WESTERN RAILWAY COMPANY.—The official statement of accounts of the Great Western have just made their appearance, from which we learn, that the total share capital, paid up to June last, was 11,457,277*l*. There is still a sum to be called by the directors of 2,616,098*l*., which then will leave them under a liability of 2,819,783*l*. The directors state their financial affairs are in a much better state than have been represented—that many of their subsidiary lines promise to be of equal value with the main line—that they shall not proceed with many branches, for which they have Parliamentary sanction, until improved times, and then only with the consent of the shareholders; and they believe, when the lines are opened into the north-west mineral district, the company will be placed on a permanent and profitable basis. The total amount of capital which will have been spent, should the entire of their subsidiary undertakings be completed, is 15,448,913*l*.

LONDON AND SOUTH-WESTERN COMPANY.—We received late yesterday, the official statement of accounts of this company, and refer to another column for a full account of the capital raised by the three great companies proposed to amalgamate. From the statement before us, it appears, that there is no room to doubt of a dividend for the current half-year of 5 per cent.; and that, in their future proceedings, there is every prospect of complete success; that, although Parliamentary costs have been heavy, it has driven off injurious competition, and has so fenced the line in all quarters, that any serious interference is highly improbable. The position of the company, both as relates to its finances and its prospects, is considered to be one of peculiar safety.

WHEAL TRECOLL.—They have cut the B lode, No. 1, in the 10 fm. level, it being now proved to be a regular lode from the adit to the 10 fm. level; it is from 9 to 12 in. in width, and rich for tin.

ACCIDENTS.

Carn Brea Mine.—W. Hocking was killed by falling from the 105 to 115 fm. level.

Merthyr.—W. Gurney was killed by a fall of rubbish from the top of a level.

Tividale, near Dudley.—G. Pickerell was dreadfully injured, by a fall of coal, in Mr. E. Mason's colliery.—A collier, named Sheldon, met a similar accident at Messrs. Blackwell's, Russell's Hall Colliery.—J. Carter had his ankle joint severely dislocated, and received other injuries, while employed in Messrs. Baddick and Mason's colliery.

Llynvi Works, Swansea.—As T. Hopkin, jun., and T. Williams, were at work in one of the levels, a mass of mine and rubbish fell, whereby they sustained serious injuries.

Tresavean.—A poor woman, named Nicholls, picking up fire-wood round the mine, got under the balance-bob, and had her shoulder and leg fractured.

Risca.—G. Jenkins, a collier, died from injuries received from a fall of coal.

THAMES TUNNEL COMPANY

The number of passengers who passed through the Tunnel in the week ending Nov. 4, was 15,639; amount of money, £65 3s. 3d.

NEW PATENTS.

C. Dawson, Hardinge-street, Islington, for certain improvements in musical instruments, and in apparatus to be used in connection with musical instruments.

G. H. Bachhoffner, Royal Polytechnic Institution, London, Doctor of Philosophy, Professor of Natural Philosophy, for improved means of transmitting, communicating, or conveying intelligence.

J. Cooper, Walworth, tailor, for improvements in fastenings for wearing apparel.

C. Iles, Birmingham, machinist, for improvements in the manufacture of certain descriptions of dress-fastenings, and in the making up of dress-fastenings and other articles for sale.

H. Kempton, Pentonville, Middlesex, gentleman, for improvements in reflectors and apparatus for artificial light.

M. Poole, London, for improvements in machinery for making nails. (Communication.)

J. Napier, Swansea, operative chemist, for improvements in the manufacture of copper, and other metals and alloys of metals.

R. Coad, Kennington, Surrey, chemist, for improvements in the construction of blast and other furnaces and fire-places.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

W. Reid, Conduit-street, sansparoil shirt, without gathers.

Spilsbury, Butler, and Co., Birmingham, cooking, roasting, and baking apparatus.

W. Ramsay, Hull, elastic seat for a saddle.

T. Edwards, Charing-cross, military folding dressing-glass.

T. Edwards, Charing-cross, camp and cabin shaving-glass.

D. Harvey, Admiralty and Somerset-house, safety disconnecting plate for locomotive or any other railway carriage.

J. Inderwick, Princes-street, Egyptian treble cylinder-pipe.

W. Tanner, Islington, dial-plate for time-keepers.

Willis and Co., St. James's-street, Australian mantle.

C. Hill, New Swindon, Wiltshire, covering for waggons.

R. Allason, Sunderland, sifting shovel.

Humphries and Thirst, Chelsea, flap-valve for sewers.

T. J. Bingent, York-street, St. James's, spring clothes-peg.

J. Storrie, Clapham-road, Storrie's knife-board.

H. Moise, Holborn, file or holder for newspapers.

J. Roberts, Eastcheap, flower supporter.

G. C. Haseler, Birmingham, brooch fastening.—*Mechanics' Magazine.*

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Bate's West Hartley 15 6—Buddle's West Hartley 16—Chester Main 16 9—East Adair Main 14 3—Hasting's Hartley 15 9—Holywell Main 15 6—New Tanfield 15 6—North Percy Hartley 15 6—Ord's Redheugh 13 6—Pontop Windsor 14 9—Ravensworth's Pelaw 14 6—South Pontop 14 6—Tanfield Moor 15—Townley 14 6—Walker 16 Primrose 14—Wylam 15—West Wylam 15—West Hartley 16 6—Wall's End Acorn Close 16 6 to 17—Bewicke and Co. 17—Brown's 15 3—Elm Park 16—Framwellgate 16 6—Heaton 16 9—Hebburn 16 6—Hedworth 15 3—Hotspur 16—Hilda 16 3—Killingworth 16 6—Northumberland 16—Peareth 14 6—Bensham 16—Walker 16—Eden Main 17 6—Belmont 17 9—Braddyll's Hetton 18 6—Bell 17 9—Hetton 19—Haswell 19 3—Lambton 18 6—Shotton 17 6—Stewart's 19—Whitwell 16 6—Caradoc 18 3—Hartlepool 19—Hudson's Hartlepool 17—Heugh Hall 17—Kelloe 18—South Hartlepool 17 6—South Kelloe 16 6—Thornley 17 6—Trimdon 17 6—Adelaide Tees 17 9 to 18—Benson 16—Denison 17—Seymour Tees 17—Tees 18 6—West Tees 16 9—West Cornforth 17—Whitworth 15 9—Cowpen Hartley 16 6—Derwentwater Hartley 15 9—Hartley 15 3—Nixon's Merthyr 21—Sidney's Hartley 16—Snapethorpe 15 3—Whitworth Coke 23—Elgin 15.—Ships at market, 425; sold, 157.

WEDNESDAY.—Bate's West Hartley 15 6—Buddle's West Hartley 16 3—Carr's Hartley 16 3—Chester Main 15 9—Hasting's Hartley 16 3—Holywell Main 15 6—North Percy Hartley 15 6—Ord's Redheugh 13 6—Pontop Windsor 14 9—Ravensworth's Pelaw 14 6—South Pontop 14 6—South Pearth 14 3—Tanfield Moor 15 6—Walker's Primrose 14—West Wylam 15—Wall's End Brown's 15 6—Gosforth 17—Hedley 16 9—Heaton 16 9—Hebburn 16 6—Harton 16 9—Hotspur 16—Hedworth 15 6—Killingworth 16 3—Northumberland 16—Pearcth 14 6—Percy Bensham 16—Riddell's 16 9—Wharncliffe 17—Washington 15 9—Eden Main 17 6—Lambton Primrose 17 9—Belmont 18—Braddyll's Hetton 18 6—Bell 18—East Hetton 16 6—Hetton 19—Haswell 19 3—Jonassohns 16—Lambton 18 6—Lyons 18—Morrison 17 3—Russell's Hetton 18 6—Shotton 17 6—Stewart's 19—Whitwell 16 6—Caradoc 18—Hudson's Hartlepool 17—Kelloe 18—Thornley 17 6—Trimdon 17 6—Adelaide 18—Benson 16 6—Seymour Tees 17—South Durham 16 9—Tees 18 6—Whitworth 15 9—Cowpen Hartley 16 3—Derwentwater Hartley 16—Hartley 15 6—Nixon's Merthyr 21—Sidney's Hartley 16 3—Elgin 15 3—Ships at market, 308; sold, 170

FRIDAY.—Bate's West Hartley 15 6—Buddle's West Hartley 16 3—Carr's Hartley 16 3—Dean's Primrose 15 9—Hasting's Hartley 16 3—North Percy Hartley 15 6—Ord's Redheugh 14—Ravensworth's Pelaw 15 6—South Pearcth 14 3—Tanfield Moor 15 6—Townley 14 6—Walker's Primrose 14—West Wylam 15—Wall's End Bewicke and Co. 17—Brown's 15 6—Framwellgate 17 6—Hilda 16 6—Harton 16 9—Hedworth 15 6—Northumberland 16—Percy Bensham 16—Walker 16 6—Washington 16 3—Eden Main 17 9—Lambton's Primrose 17 9—Belmont 18 3—Bell 18—East Hetton 16 6—Hetton 19 3—Haswell 19 6—Jonassohn 16—Lambton 18 9—Lyons 18—Russell's Hetton 18 9—Shotton 17 9—Stewart's 19 3—Caradoc 18 6—Cassop 16—North Hartlepool 17—Heugh Hall 17—Kelloe 11—Ludworth Steamtboat 15 6—South Hartlepool 17 6—Seymour Tees 17 3—South Durham 17—Tees 18 9—West Cornforth 17—Cowpen Hartley 16 9—Hartley 15 6—Nixon's Merthyr 21—Sidney's Hartley 16 3—Snapethorpe 16.—Ships, 194.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 188	Belgian, 4½ per Cent., 7½
3 per Cent. Reduced Ann., 85¾ 5	Dutch, 2½ per Cent., 45¾ ⅞
3 per Cent. Consols Ann., 86¾ ½	Brazilian, 5 per Cent., 73¾
3¼ per Cent. Ann., 85¾ 6 5¾	Chilian, 6 per Cent., 84½
Long Annuities, 8½	Mexican 5 per Cent., 21 ½
India Stock, 10½ per Cent., 236	Russian, 5 per Cent., 98½
3 per Cent. Consols for Acct, 86¾ ¼	Spanish, 5 per Cent, 11½
Exchequer Bills, 1000*l*. 2d. 37 40 pm.	Ditto 3 per Cent., 23

MINES.—The mining share market has much improved during the week, and a considerable amount of business has been transacted. An extraordinary demand has been, and is still, made for Devon Great Consols, especially; whilst most of the dividend and favourite mines have had their inquiries. Buyers are free in offering for shares at former quotations; but sellers are advancing, in consequence of the general improved appearances of the mines in Cornwall and Devon, as well as the improving position of the metal market.

Perhaps none of our commercial interests have attracted the attention of capitalist less than that of mining; and, now that the real position of the financial department of our railway system is becoming more clearly developed, the monied public are beginning to seek a source of investment more remunerative, whose accounts are more open and less mystified, and where regular dividends are paid from profits, and not from capital. We believe, in *legitimate* mining, this *desideratum* may be found.

Although the leases of mineral property are not of the same duration as railways, yet it must be understood that, in established mines, the price of shares is seldom more than from five to six years' purchase, and the accounts are regularly balanced every two months, the profit or loss divided, and every shareholder learns the extent of his liability. Whether clearer views of this particular branch of our national wealth have been taken by capitalists, to produce the many inquiries we have had this week, we will not affirm; but this we can assert, that railway shares have been sold at a vast sacrifice, and mining shares purchased, at four years' purchase, in good dividend-paying mines.

Devon Great Consols have been assiduously sought for at advanced prices, and but few sales have been effected, in consequence of the scarcity of sellers.

East Wheal Rose shares have been done, and buyers still in the market, In Trelawny, West Caradon, Trehane, Carn Brea, South Basset, East Pool, Wheal Seton, and other shares, inquiries have been active, and business transacted.

Shares in the following mines have changed hands during the week:—Devon Great Consols, East Wheal Rose, South Wheal Basset, Great Rough Tor Consols, Trehane, Bedford United, Trelawny, Tregorden, Camborne Consols, Tremayne, Tamar Consols, West Wheal Tolgus, West Caradon, East Tamar Consols, East Pool, South Wheal Frances, Treviskey and Barrier, &c.

Our attention has been drawn to the Bwlch Consolidated Mines in Cardiganshire—a property that remained idle for a considerable period—was taken up by a spirited and enterprising party, about two years since, and is now making a profit after the rate of 12,000*l*. a-year.

South Wheal Frances bi-monthly account meeting was held on the 6th, when a dividend of 10*l*. per 124th share was declared from the profits realised in August and September, and a balance of 644*l*. 13s. carried to the next account. The copper ore and tin sold realised 3348*l*. 2s. 5d.; the profit 1289*l*. 17s. The present prospects of the mine are represented as remarkably cheering.

The bi-monthly meetings of the following mines, under the management of E. A. Crouch, Esq., were held on the 26th and 27th ult. The July and August statement of accounts and reports will be seen by the subjoined summary:—

West Caradon gave a profit of 732*l*. 18s. 7d. during the two months—603 tons of ore sold realised (less dues) 4294*l*.; deducting a dividend of 2*l*. per 256th share paid since the last meeting; and for 53 shares in East Wheal Agar, purchased for the company at 5*l*. per share, a balance of 1447*l*. 5s. 1d., from which sum a dividend of 50s. per share has been paid. No report of the mine has been furnished with the statement of accounts, but we learn that she is looking remarkably well in most of her levels, and that a new and promising lode has been recently discovered.

The balance against Gonamena Mine for the two months is 37*l*. 8s. 11d., to discharge which, and for further operations, a call of 30s. per 256th share was made. Present operations appear to be confined to the south part of the mine, in developing a new and promising lode—to this lode, and that of Gilpin's (in West Caradon), the anticipations of the shareholders appear to be directed. A pitch in the back, and under the 45 fm. level, is calculated to return from 20 to 30 tons of ore during the next two months.

Craddock Moor presents a balance of 49*l*. 13s. 2d. in favour of the adventurers, and a call of 5s. per 212th share was made. Vivian's and Gilpin's lode, in West Caradon, continue productive, and these lodes, passing through the sett, holds out some encouragement that they may also be found good in Craddock Moor. It is also intended to costean for the new lodes recently found in West Caradon.

Wheal Mary Consols has sustained a loss of 21*l*. 14s. 4d. on the two months. Copper ores and tin sold realised (less dues) 1253*l*. 3s. 4d., and the balance in hand is now 194*l*. 10s. 9d. The report of the mine, especially for tin, is not so encouraging as could be desired; the lodes in sight generally are poor, but the 60 going west presents some favourable appearances. A suggestion of the captain was resolved on, to fix flat-rods in the 25 fm. level, for the purpose of draining the lode under the 50.

Wheal Sisters' accounts present a balance of 5*l*. 7s. 10d. against the company. The returns in copper and tin were 231*l*. 14s. The sett is adjoining Wheal Mary Consols; the character of the ground, and the general appearances of the lode similar, and the two mines are worked under a mutual arrangement.

East Tamar Consols adjourned meeting was held yesterday, when a call of 2s. 6d. per 9000th share was declared: The balance-sheet furnishes a statement of accounts from the commencement to October cost, not yet due. A balance of 1108*l*. on the seven months' working appears to be due to the committee of management, who had disinterestedly taken upon themselves the requisite funds to preclude the necessity of a call, anticipating the same would not be required. A sale of 53 tons 17 cwts. of silver-lead ore was made on the 30th ult., realising 636*l*. 12s. 6d.; and the steam-engine not needed, estimated at 600*l*. for sale, may be carried against the debt. The assets and liabilities shows a balance of 487*l*. 10s. in favour of the former, with 1125*l*. the amount of call made, is deemed more than sufficient to bring the mines into a state of permanent profit.

The meetings of other companies will be found in the usual place.

A sum of 12,000*l*. was received by the last packet from Lisbon on account of the Portugese dividend, making about 65,000*l*. in hand. The 40,000*l*., illegally deducted from the dividend of January, 1847, remains unrestored.

By the returns of the Board of Trade for the month ending Oct. 10th, we find an increase in the exportation of copper and tin over the corresponding month of last year; and in lead and iron there is a decrease, but this difficulty is made up by the increased demand for home consumption.

	1847.	1848.	Increase.	Decrease.
Iron and steel	£554,293	£381,788	—	£172,505
Copper and brass	121,523	128,956	£7434	—
Lead	17,540	14,061	—	3479
Tin	29,030	16,752	—	12,278
Tin-plates	44,211	54,468	10,257	—

In foreign shares there has been an active inquiry for St. John del Rey and Imperial Brazilians; and business has been done at better prices. Australians, United Mexican, Asturians, and Bolanos, have also been transacted.

The following arrivals of specie have taken place since our last:—By the ship *Bonita*, which arrived at Liverpool on Sunday evening from Pernambuco, South America, 6000*l*. in specie. The Ocean Steam Navigation Company's ship, *Hermann*, arrived at Southampton on Monday, having on freight $300,000 in specie, $105,000 of which are for Havre, and a small quantity for England. The Peninsular and Oriental Steam Navigation Company's ship, *Euxine*, arrived at Southampton on Tuesday, having on freight 54 packages of specie, value about 34,000*l*. sterling. The Royal West India mail steamer, *Avon*, arrived at Southampton on Wednesday, having on freight $907,152 on merchants, account, and pearls to the value of 100*l*.

HULL, THURSDAY.—We have to notice more disposition to invest in shares, to a limited extent, and the panic-feeling is evidently subsiding—slowly, perhaps, but certainly, and we trust nothing untoward will occur to change the present more favourable current of public opinion.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver coin to Hamburgh, 1060; ditto to Belgium, 32,000; ditto to Dunkirk, 2000; ditto Rotterdam, 67,000—Silver bars to Rotterdam, 231,000—Gold coin to Hamburgh, 10.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7	—
512	Albert Consols	1	2¼
1024	Alfred Consols	5¾	5
1000	Antimony and Silver-Lead Mining & Smelting	5	4
1024	Ashburton United Mines	8½	10
1624	Balleswidden	9	18
128	Bainoon Consols	25	25
10000	Banwen Iron Co.	6	6¼
1000	Barristown	4½	1½
4000	Bedford	2½	2
1244	Birch Tor Tin Mine	9¼	1¼
8000	Blaenavon	50	17½
100	Botallack	182	60
120	Brewer	5	7
10000	British Iron, New, regis.	10	13
—	Ditto ditto, scrip	10	10
128	Budnick Consols	52½	35
1000	Callington	19	15
1000	Camborne Consols	5	7
20000	Cameron's Steam Coal	6	1
256	Caradon Copper Mine	9¼	4
256	Caradon Mines	22½	10
256	Caradon United	24	5
256	Caradon Wh. Hooper	21	8
1000	Carn Brea	15	95
3000	Carthew Consols	1½	5
2048	Cascade	1	—
112	Charlestown	220	60
512	Coatlithe Hill	½	1
500	Comblawn	5¾	3
128	Comfort	45	37
256	Condurrow	20	35
2560	Cook's Kitchen	14	2
1000	Coombe Valley Quarry	3¾	4½
6500	Cornish Mining Co.	2	2¾–⅞
20000	Cornwall New Mining	1	1
1000	Copper Bottom	1½	6¼
1024	Cosheen	4½	20
225	Craddock Moor	16¾	5
128	Creeg Braws	120	100
500	Cubert Mine	12½	—
1000	Cwm Erfin	3½	2¼
300	D. Prior & Buckfastleigh	—	—
7100	Derwent	8½	5
845	Devon & Courtenay Con.	7¾	¾
1024	Devon Great Consols	1	210–15
1000	Dhurode	2	5
186	Dolcoath	30	15
2560	Drake Walls	5	4
10000	Durham County Coal	45	9
3000	Dyfngwm	10	12½
512	East Alvenney	5½	12½
112	East Caradon	47	47
2048	East Crowndale	5½	2¼
512	East Combe Silver-Lead	6¾	6½
128	East Pool	15	30
9000	East Tamar Consols	¼	¾
—	East Wheal Albert	1	3
94	East Wheal Crofty	125	250
1024	East Wheal Fortune	2	3
128	East Wheal Rose	50	760
—	East of Scotland Iron Co.	5	1¾
123	East Wheal Seton	14	10
256	Exmoor Wh. Eliza	9	9
512	Fowey Consols	40	45
1024	Freidd Llwydd Mines	1½	3½
6400	Gadair	2	2
4000	Gen. Mining Co. for Irel.	1½	1½
2048	Goldscope Mine	2	2
256	Gonamena	3¼	5
128	Goonvrea	4	2
100	Great Consols	1000	250
1600	Great Michell Consols	1½	¼
256	Great Resugga Moor	11	6
512	Gt. Wh. Rough Tor Con.	18½	11
1200	Growa Slate Company	5	5
256	Gwinear Consols	7	3
6000	Heignston Down Con.	¼	2½
256	Herodsfoot	18	25
10000	Hibernian	12½	1¾
239	Hobb's Hill	6	1¾
1000	Holmbush	22	1½
827	Kirkcudbrightshire	5¾	2
2048	Lamherooe Wh. Maria	13	2
128	Lelant Consols	90	60
160	Levant	—	100
1000	Lewis	16	7
1000	Llwyn Malees	7	7
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	19	14
6000	Marke Valley	10	2
5000	Mendip Hills	3	1
5000	Merionethshire Slate Co.	1½	2
128	Metha	34	140
20000	Mining Co. of Ireland	7	4½
256	New East Crowndale	3¾	2¾
128	North Fowey Consols	37	10
100	North Pool	45	500
140	North Roskear	5½	165
262	North Wh. Leisure	1½	2
15000	Northern Coal Co.	23	2
128	Par Consols	—	1009
8000	Pennant & Craigwen	2	2½
100	Penrhiw	30	65
1024	Penzance Consols	16s 3d.	2
512	Plymouth Wh. Yeoland	6½	15
200	Polsaith Consols	5½	4½
2500	Rhoswiddol & Bacheldon	10	10
10000	Rhymney Iron	50	13
10000	Ditto New	7	6¾
1000	Rosewall Hill	1	5

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	Rosewarva Mines	—	12
128	South Caradon	10	300
1100	South Dolcoath	4	5
256	Sth. Friendsh. Wh. Ann	20	4
256	South Molton	5	10
256	South Tolgus	10	55
256	South Trelawny	20	5
128	South Wheal Basset	110	125
256	South Wh. Betsey	2½	12½
124	South Wh. Frances	160	220
1000	South Wh. Maria	2½	1½
10000	Southern & Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	—
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	18
9600	Tamar Consols	3	5
1024	Tavy Consols	4	4
6000	Tincroft	7	4
1000	Tin Vale	2¾	3½
128	Tokenbury	152½	13
256	Tollpetherwin	3½	5
256	Tregordan	2	9
256	Trehane	2½	25
5000	Treleigh Consols	6	2
2000	Trenance	3	50
96	Tresavean	10	150
120	Trethellan	5	19
120	Treviskey and Barrier	130	87½
288	Trevean	1½	5
100	United Mines	300	350
256	Wellington Mines	25	10
128	West Basset	45	1
256	West Caradon	20	80
512	West Fowey Consols	40	15
256	West Providence	9	15
200	West Seton	40	200
—	West of Scotland Iron Co.	240	90
120	West Trethellan	5	30
256	West United Hills	—	4½
512	West Wheal Frances	1½	2
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	11	1¼
256	West Wheal Tolgus	21¼	5
256	West Wheal Treasury	19	8
1024	Whiddon Mines	4¾	4½
5200	Wicklow Copper	5	8¾
184	Wheal Adams	51	10
1000	Wheal Agar	—	8
256	Wheal Albert	10	1
300	Wheal Anderton	23	15
128	Wheal Ann	—	50½
512	Wheal Anna Maria	6¾	8
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	20
2560	Wheal Barbara	1¼	—
256	Wheal Benny	14½	2
256	Wheal Blencowe	21	5
256	Wheal Bucketts	20	5
256	Wheal Calstock	5	10
268	Wheal Courtenay	12½	15
256	Wheal Fortescue	6¾	3
388	Wheal Franco	27	18
128	Wheal Harriet	45	—
1024	Wheal Lawrence	2½	6
112	Wheal Margaret	79	250
512	Wheal Mary Ann	5	14½
237	Wheal Mary Consols	42½	5
1024	Wheal Mary North	2	2½
—	Wheal Penhale	—	12
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	5
99	Wheal Seton	214	700
194	Wheal Sisters	32½	12
512	Wheal Sophia	3¾	5
128	Wheal Spearne	10	75
128	Wheal St. Ann	30	35
550	Wheal Trescoll	4	5
260	Wheal Trelawny	7½	57½
256	Wh. Tremaine (St. Ervan)	9½	2½
1024	Wheal Tremayne	9¾	2½
92	Wheal Tryphena	140	265
1000	Wheal Vincent	1½	5
256	Wheal Vlow (Perranz.)	½	⅛
184	Wheal Vyvyan	—	60
250	Wheal Williams	28¾	8

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	2
15000	Asturian Mining Co.	13	2
20000	Australian	2½	4½
10000	Anglo-Mexican Co	100	¼
12374	Ditto Subscription	25	1½
6000	Barossa Range	½	1
3000	Bolanos	150	2¼
2000	Ditto Scrip	15	3
12000	Brazilian Imperial	23	8-9-10
10000	Cobre Copper Co.	40	13
10000	Copiapo Mining Co	14	2¼
10000	General Mining Ass'n.	20	10
5000	Kinzigthal Mining Ass.	2	3
20051	Mexican Company	59	—
2000	Mexican & South Amer.	8	½
5000	National Brazilian	30	3½–5½
104000	N. Brit. Australasian	1	¼
7000	Royal Santiago	10	4
11000	St. John del Rey	15	11½–12
13174	United Mexican ... Av.	28½	3½–¾

Note.—In last week's Share List, we quoted, in error, Great Rough Tor shares at 50*l*., and we learn that they have since been done at 11*l*., at which price we quote them.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	Traffic Returns, 1848	1847
Belfast and Ballymena	37¾	—	—	—	£ 414	—
Birkenhead, Lancashire, & Chesh.	19	997,284	37	5 *p.c.**	785	716
Caledonian	141	3,993,732	18¾	—	5001	—
Chester and Holyhead	84	3,014,602	22	4	1468	—
Dublin and Drogheda	35½	774,875	28	—	773	846
Dublin and Kingstown	7¾	395,915	—	6	1027	1207
Dundee, Perth, & Aberdeen Junc.	47½	544,554	21	8	911	733
East Anglian (Lynn to Ely)	67½	1,167,104	4½	—	743	—
East Lancashire	44	1,733,915	15½	5	1548	928
Eastern Counties and Norfolk	307	10,364,505	12¾	4	14315	13158
Eastern Union	50½	1,522,232	20	—	1410	1238
Edinburgh and Glasgow	57½	2,556,889	39½	6	3477	3476
Edinburgh and Northern	78	1,722,213	15¾	4*	1814	628
Glasgow, Paisley, and Ayr	102½	2,286,353	65	4	2606	2914
Glasgow, Paisley, & Greenock	22½	848,328	14¾	4	916	1172
Gt. Southern & Western, Ireland	131	2,844,897	23	4*	3441	2042
Great Western	290½	11,311,069	82½	7	18707	19759
Kendal and Windermere	10½	174,600	23	—	132	126
Lancaster and Carlisle	70	1,476,102	48	4	2107	1620
Lancashire and Yorkshire	172½	8,242,628	57–8	6	10347	3981
London and North Western	435	22,835,120	118–19	7	39636	39258
London and Blackwall	4	1,299,675	4½	1·12	577	899
London, Brighton, & South Coast	162½	6,284,812	28½	2½	8944	8978
London and South-Western	215	7,139,733	40½	6	8607	9008
Londonderry and Enniskillen	14½	154,643	16	—	—	116
Manchester, Sheffield, & Lincolnsh.	58	4,651,093	40	5	2776	2214
Maryport and Carlisle	28	443,974	40	—	—	697
Midland Company	463½	13,254,006	83½	6	21452	22678
Midland Great Western (Irish)	50	725,332	10	4*	1144	894
North British	99	3,163,450	15¾	5	2512	2457
Scottish Central	45½	1,245,496	23	—	1097	—
Shrewsbury and Chester	23	780,272	11½	5	1254	602
South Devon	50½	1,789,351	12½	—	1248	881
South-Eastern	165½	7,389,322	24½	6½	9081	9846
Taff Vale	38	820,056	125	6½	2019	1619
Ulster	36	684,684	45¾	—	878	900
Whitehaven Junction	12	150,879	9¾	3	168	188
York, Newcastle, & Berwick	270	5,038,255	27	8	13652	11738
York and North Midland	255	4,179,309	50–49	8	7675	8094

FOREIGN RAILWAYS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	Traffic Returns, 1848	1847
Amiens and Boulogne	76½	573,338	5½	4	1249	—
Antwerp to Ghent (monthly)	31	—		—	—	—
Marseilles to Avignon	71½	—	8½	—	—	—
Dutch Rhenish	57½	—	¼	—	1003	984
Northern of France	211	2,000,000	5¾	4	14299	13784
Orleans to Bourges (Central)	107½	—	—	—	2201	2203
Orleans to Tours	72	600,000	32½	6	3003	3618
Paris and Orleans	82	2,011,720	25½	12½	6248	6549
Paris and Rouen	85	2,082,916	15½	11½	5255	6685
Rouen and Havre	59½	—	7½	—	2109	2624
Strasburgh and Basle (monthly)	88	—	6	1½	—	—
West Flanders (ditto)	—	—	½	3	1120	1615

* Interest.—Total for last week, £199,440, being an increase of £21,560 over last year.

LATEST CURRENT PRICES OF METALS.

LONDON, NOVEMBER 10, 1848.

	£ s. d.	£ s. d.
IRON—Bar *a*, Wales ... *ton*	5 7 6	5 10 0
„ London	6 0 0	6 15 0
Nail rods „	6 0 0	7 10 0
Hoops	0 0 0	9 0 0
Sheets, single	0 0 0	9 10 0
Refined metal	3 7 6	3 10 0
Bars, Staffordshire	0 0 0	6 10 0
Pigs, ditto	3 0 0	3 15 0
Welsh cold-blast foundry pig	3 15 0	4 5 0
Scotch pig *b*, Clyde	2 2 6	2 5 0
Do. toughened, Wales	4 0 0	4 5 0
Stirling's Pat., Glasg.	3 0 0	3 5 0
Rails, average	5 10 0	5 15 0
Chairs	0 0 0	4 0 0
Russian, CCND *c*	0 0 0	17 0 0
„ Archangel	0 0 0	13 0 0
Swedish Steel, fagt. *d*	0 0 0	15 0 0
„ „ kegs *e*	13 10 0	14 0 0
COPPER—Tile *f*	0 0 0	78 10 0
Tough cake	0 0 0	79 10 0

	£ s. d.	£ s. d.
COPPER—Ordin. sheets, *lb.*	0 0 0	0 0 9
Old	0 0 0	0 0 7¼
YELLOW METAL SHEATHING	0 0 0	0 0 7¼
TIN—Com. blocks *g*... *cwt.*	0 0 0	3 19 0
„ bars	0 0 0	4 0 0
Refined	0 0 0	4 6 0
Straits *h*	0 0 0	4 4 0
Banca, for home con.	0 0 0	4 6 0
ditto for export only	0 0 0	3 16 0
TIN-PLATES—Ch., IC *i*, *box*	1 9 0	1 10 0
„ IX	0 0 0	1 16 0
Coke, IC	1 6 0	1 7 0
LEAD—Sheet *j* ... *ton*	0 0 0	17 0 0
Pig, English	0 0 0	16 0 0
„ Spanish	0 0 0	15 0 0
Red	0 0 0	18 5 0
Dry White	0 0 0	22 15 0
Shot (Patent)	0 0 0	19 5 0
SPELTER—(Cake) *l* on spot	0 0 0	15 0 0
ZINC—(Sheet) *m* export.	0 0 0	20 0 0
QUICKSILVER *n* ... *lb.*	0 0 0	3 6

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto *e* In kegs ½ and ¾-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash. in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent.

REMARKS.—During the past week Welsh bar-iron has been offered at rather lower rates, without finding buyers, and the market still exhibits a downward tendency. Scotch pig-iron is nominally at about the same price as last week—say, 42s. cash (either for all No. 1, or mixed Nos.), free on board at Glasgow. The business transacted has been upon a very limited scale, and principally for delivery in the spring of next year. Foreign tin on the spot has greatly advanced, and may be quoted firm 86s. for Banca, and 84s. for Straits. Tin-plates are in fair demand, and are held firm at quotations. In spelter several transactions are reported at from 14*l*. 10s. to 14*l*. 15s. per ton. In other metals no alteration.

GLASGOW, Nov. 9.—Since last week the market has been quiet, and the business done has been chiefly in small parcels to consumers. The prices is scarcely so firm today, and may be quoted at 42s. to 43s., according to Nos., cash.

LEAD ORES

TICKETINGS FOR ABOUT 100 TONS LANEY LEAD ORE.

Douglas, Isle of Man, November 4.

Bidders.	*Amount per ton.*
Mather and Co.—purchasers	£17 13 0
Newton, Keates, and Co.	17 8 0
Walker, Parker, and Co.	17 7 6
T. Somers	17 3 6
Tamar Smelting Company	17 2 6
Sims, Willyams, and Co.	17 5 0

TICKETINGS FOR ABOUT 100 TONS (20 cwts.) NEWTONARDS LEAD ORE.

Douglas, Isle of Man, November 4.

Buyers.	*Offer per Ton.*
Walker, Parker, and Co.—Chester	£8 13 6
Tamar Smelting Company—Tavistock	8 1 0
Newton, Keates, and Co.—Liverpool	8 0 0
Sims, Willyams, and Co.—Llanelly	7 17 6
Thomas Somers—Bristol	7 0 0

Sold on the Mine.

Mines.	*Tons.*	*Price.*	*Purchasers.*
East Wheal Rose	51	£14 3 6	J. T. Treffry.
ditto	31	11 15 0	Sims and ditto.
ditto	24	12 13 0	Michell & Son.
ditto	7	7 17 6	ditto
Sold in London,			
Wheal Adams	30	£10 15 0	Michell & Son.
Callington	77	17 9 6	Tamar Company.

BLACK TIN.

Sold on the 24th of October.

Mines.	*Tons cwts. qrs. lbs.*	*Price per ton.*	*Purchasers.*
Tincroft	13 15 0 20	£40 12 6	Williams, Harvey, & Co.
Sold on the 6th November.			
ditto	17 5 3 6	£41 10 0	L. C. and W. Daubuz.

Total—31 tons 0 cwts. 3 qrs. 26 lbs.—Amount of money, £1276 9s. 7d.

Sold on the 28th October.

Lewis	13 11 2 7	£48 2 6	Bolitho & Sons.
ditto	1 7 1 25	40 10 0	ditto

Total—14 tons 19 cwts. 0 qrs. 4 lbs.—Amount of money, £709 1s. 6d.

Sold on the 31st October.

East Crowndale	Tons 10	£46 0 0	Enthoven & Co.
ditto	1	24 0 0	ditto

Total tons, 11.—Amount of money, £484.

Sold at Calenick on the 4th November.

Mines.	*Tons cwts. qrs. lbs.*	*Price per ton.*	*Amount.*
Ashburton United	4 17 0 22	£48 5 0	£234 9 8
ditto	0 14 3 21	38 10 0	28 15 1

Total—5 tons 12 cwts. 0 qr. 15 lbs.—Amount of money, £263 4s. 9d.

Great Polgooth	Tons 46	£44 12 6	H. J. Enthoven & Co.
ditto	2	40 12 6	Daubuz; Calenick; Williams.

COPPER ORES.

Sampled Oct. 25, and Sold at Andrew's Hotel, Redruth, Nov. 9, 1848.

Mines.	*Tons.*	*Price*	*Mines.*	*Tons.*	*Price.*
Carn Brea	90	£6 17 0	Levant	50	£6 12 0
ditto	86	4 15 0	ditto	10	33 10 6
ditto	85	9 5 6	West Wh. Treasury	62	4 8 6
ditto	84	4 0 6	ditto	61	4 13 0
ditto	74	4 5 0	ditto	40	3 8 0
ditto	70	7 0 6	Wh. Agar	56	5 9 6
ditto	68	10 4 6	ditto	51	2 10 0
ditto	65	3 13 0	Alfred Consols	64	1 18 6
ditto	62	9 5 6	ditto	24	4 19 0
ditto	61	7 11 6	West Fowey Cons.	70	5 8 0
ditto	38	8 7 0	Wh. Tremayne	51	2 4 6
ditto	32	1 0 0	ditto	18	4 14 0
Par Consols	95	6 14 0	Wh. Prosper	28	2 10 6
ditto	90	6 10 6	Wh. Virgin	18	2 18 0
ditto	87	6 13 6	Wheal Jane	8	2 6 0
ditto	70	7 1 0	Trenoweth Mine	8	2 15 6
Levant	84	3 17 0	Gwinear Consols	6	6 19 6
ditto	62	7 0 6			

TOTAL PRODUCE.

Carn Brea	815	£5276 14 0	Wh. Tremayne	69	£198 1 6
Par Consols	342	2297 19 6	Wh. Prosper	28	70 0 0
Levant	206	1414 4 0	Wh. Virgin	18	52 4 0
West Wh. Treasury	163	694 0 0	Wh. Jane	8	18 8 0
Wh. Agar	107	434 2 0	Trenoweth Mine	8	22 4 0
Alfred Consols	88	242 0 0	Gwinear Consols	6	41 17 0
West Fowey Cons.	70	378 0 0			

Average Standard .... £86 15 0 | Average Produce 9¾

Average Price per ton £5 15 6

Quantity of Ore .... 1928 tons. | Quantity of Fine Copper, 189 tons 9 cwts.

Amount of Money £11,139 14 0

LAST SALE.—Average Standard .... £93 17 0.—Average Produce 7¾

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Vivian and Sons	464	£2428 12 6
Freeman and Co.	293	2393 8 6
P. Grenfell and Sons	281	1846 15 6
Crown Copper Company	23	61 2 0
Sims, Willyams, and Co.	304	1566 7 0
Williams, Foster, and Co	414	2268 1 6
Schneider and Co.	149	575 7 0
Total tons	1928	£11,139 14 0

NO SALE on Thursday next, November 16.

Copper ores for sale on Thursday week, at the Royal Hotel, Truro.—Mines and Parcels.—Devon Great Consols, Wheal Josiah, Wheal Maria, Wheal Fanny, and Wheal Anna Maria 1531—West Caradon 340—Fowey Consols 272—Wheal Friendship 232—Poldice 136—Bedford United Mines 102—Creeg Braws 90—Wheal Maiden 20—Wheal Jewel 17—Wheal Unity Wood 4.—Total, 2744 tons.

COPPER ORES

The following were the purchasers at the Swansea sale of the 2d Nov.:—

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	64	£236 16 0
Freeman and Co.	181	1705 18 6
Grenfell and Sons	309	3490 13 0
Sims, Willyams, and Co.	190	4896 14 0
Vivian and Sons	475	6335 8 6
Williams, Foster, and Co.	681	7333 12 6
Schneider and Co.	229	2067 6 6
Total tons	2129	£25,866 0 0

Copper ores for sale Nov. 16.—Cuba 115, ditto 166, ditto 101, ditto 96, ditto 42.—Cobre 115, ditto 113, ditto 110, ditto 60, ditto 44.—Chili 58, ditto 51, ditto 50, ditto 46, ditto 59, ditto 58, ditto 37.—Knockmahon 85, ditto 90, ditto 64, ditto 58.—Copiapo 66, ditto 85, ditto 84.—Burra Burra 76, ditto 67.—Ballymurtagh 38, ditto 29.—Princess Royal 60.—Total quantity of ore to be sold, 2085 tons.

NOTICES TO CORRESPONDENTS.

Received.—R. W. (Truro)—W. H. D. (Manchester)—"Rufus" (Neath)—J. H. (Calstock)—Dr. Murray (Hull).

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, NOVEMBER 11, 1848.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

In another column will be found the letter of a correspondent, on an important subject—that of the "Liability of Adventurers," and having consulted the Act referred to—viz.: that for winding up joint-stock companies, 11th and 12th VIC., cap. 45—as also taken the opinion of parties well able to determine how far it applies to the questions raised by our correspondent, we present the result of the information so acquired, which we find to be generally in accordance with the views we ourselves entertain. We believe, up to the present moment, no case has come before the Courts, so that no precedent has been established, and hence the observations made must be considered as those arising from the construction put upon the Act, and those particular clauses having reference to the case immediately under notice.

We believe it is admitted, that in all instances where debts have been contracted on the credit of the body of adventurers, each individual is personally responsible for the whole claim, no matter whether he has paid his calls, or otherwise, and hence the necessity of the Cost-book System being closely adhered to—that of holding periodical meetings, and making calls from time to time to meet the current monthly cost. It is, we agree with our correspondent, hard that "good men" should be singled out, and fired at, who are left to their own resources as against their co-adventurers; and it was with the view to remedy this evil, that the clause referred to was introduced in the Act now before us, and to which we shall have occasion more particularly to refer. The Stannaries Court, which is resorted to as one of law and equity, as between adventurers, does not, in any way, preclude a creditor, or third party, from taking proceedings against any shareholder for the recovery of any claim he may have on the mine; but, before we enter into detail as to the bearing of the clause in the Act relating to this point, we must needs set our correspondent right as to the position he takes. The question put is—"Whether it be not a fact that Mr. WYLD added a rider to the new Act for winding up joint-stock companies, to the effect that all companies formed for working mines *out of the jurisdiction of the Stannaries*, should come under the operation of the Act." On referring to the clause, it will be seen that the words used are—"That all associations of companies, formed for the purpose of working mines, or minerals, &c., shall be liable to the operations of this Act, provided, nevertheless, that nothing herein contained *shall affect the jurisdiction of the Court of Stannaries in Cornwall.*" The words employed by our correspondent are "out of the jurisdiction," which is quite a different reading—the meaning of the Legislature evidently being, that the late Act should not interfere with existing powers; at the same time, that, as thereinafter provided, a power was given to any adventurer to act under certain cases, whereby he might protect himself; so that the act may be said to be operative for that particular object, even within the jurisdiction of the Stannaries—while the adventurer has a remedy against his co-adventurer, without being compelled to resort to a court of equity.

The fifth clause appears to us to provide a remedial course to be pursued by any adventurer against whom an action may be brought, for the recovery of a debt due by the body of adventurers at large, whereby, in case of any judgment debt, or any action being brought, the same not being settled by the company, after receiving 10 days' notice, or indemnity given to the defendant to his satisfaction, he, the adventurer so sued, may, on application to the court, cause a fiat of bankruptcy to be issued against the company, whereby they would be compelled to pay, *pro rata*, the amount of such debt, with costs; he, the adventurer so sued, in the first instance, being only liable for his proportion. Such, we are given to understand, on undoubted authority, is the construction put upon the clause in question, which has for its object the protection of the individual shareholder. We have not space to follow out the proceedings, but a reference to the Act will at once, we think, convince any one of the powers given. Having thus disposed of one question, whereby we have clearly shown that mines, both in and out of the jurisdiction of the Stannaries, are affected by the Act, so far as relates to the winding-up, we proceed briefly to reply to the second submitted—"Is it not a fact that the Stannary Courts have no jurisdiction in the county of Devon?" To this our simple reply is, that the Stannary Court of Cornwall can have no power in Devon, or any other county; the vice-warden there presides, and can only recognise matters touching on the working of mines in Cornwall; but it must not be lost sight of that, at one time, a Stannaries Court was also held in Devon, and, although not in existence at this moment, there being no officers appointed, or any recognised *locus* for the holding of such court; yet we presume that the authorities possess full power to establish a court, and appoint the necessary officers.

A suggestion is thrown out by our correspondent, to the effect that the defendants in the actions, to which he alludes in the early part of his letter, should *at once* bring the several companies under the operation of this Act, make the creditors prove their claim before a commission of bankruptcy, and thus enforce the respective proportions due from the body of adventurers at large. We perfectly agree with the idea thus propounded, although we believe—or, at least, we are so informed—that however it might be the proper course to be taken by the defendant, or the party sued, yet that the creditor is not bound to prove his debt under the commission, such resulting after judgment has been obtained against the individual, although the option is afforded him by the sixth clause of proceeding against the company, and hence his position is not altered—the application for a fiat of bankruptcy being alone with the view of relieving the defendant from the payment of the whole demand, and causing every other adventurer to pay their relative proportions.

We know not whether we have clearly explained the matter as it appears to us; but as the question is one involving legal difficulties, and allowing of technical objections being raised, and more than one view being entertained, we shall feel indebted to our correspondents, more enlightened in the law than ourselves, if they will give us the benefit of their legal experience and knowledge. In thus endeavouring to reply to our correspondent as affects mines, we may avail ourselves of the present opportunity of directing the attention of parties connected with railway undertakings to the provisions of the Act, as it appears to us that the course to be adopted, in case of any proceedings instituted against any individual as a member of the provisional committee, or otherwise, is very simple. Legal proceedings having been instituted, or a verdict obtained, it is only for the defendant to give the necessary 10 days' notice; and in case the company do not relieve him from his position, the Act prescribes the manner in which the company is brought under its provisions, by issuing a fiat of bankruptcy, which applies to "one and all," and must, in the end, do justice, and relieve the party oppressed in the first instance. We doubt not but some such course will be taken ere long, and thus the Act will confer a boon on the capitalist and shareholder, who otherwise might be made the scapegoat of the many.

Notwithstanding the charges made against the directors of the CALEDONIAN RAILWAY COMPANY by interested parties, with a view to their expulsion, and the evidently fallacious statements made and circulated recently, which have much depreciated the property of the company, it will be seen by the supplementary statement, circulated among the proprietors previous to the meeting yesterday at the Euston Hotel (a report of which will be found in another column), that the general affairs of the company are anything but in the desperate state the circulated rumours attempted to make us believe. From this supplementary report, it will be found that, even assuming the whole of the capital authorised was paid up, the present weekly revenue would, with an increase of 792*l.* per week, yield a dividend of 4 per cent. Now, from all railway statistics with which we are acquainted, we have a right to assume that the traffic will greatly increase, more particularly as the mineral wealth around the different branch districts is more fully developed; and it is more than probable, that as better economy in the working of the trains may be observed, and the general expenses of transit are reduced, and from the amount of mileage which this company will work under one management, and the peculiar character of the traffic passing, as it does, to a great extent, over a long mileage, the working expenses will be greatly reduced.

One extraordinary *item* which has been put forward by the authors of these statements is, that the amount of guarantee which this company will have to pay on the Scottish Central, the Scottish Midland Junction, and the Dundee, Perth, and Aberdeen Junction Companies, is 143,800*l.* per annum—while the fact is, they are under no further obligation than for their proportion, in common with the other leasing companies, which proportion amounts to 72,150*l.* per annum. There has also been a *small* mistake of 100,000*l.*, overstated in the working expenses, with other fallacies; and if we extinguish these errors, and analyse and dissect these reports, we shall find no basis for that airy fabric which has done so much injury to the property of the shareholders, and sent the value of the shares down to *zero*. In the difficulties which the directors have had to contend with in the carrying out this great work, in the unfair and interested opposition they have to encounter, and in having to contend against the most selfish and exorbitant demands, as compensation, indemnity, &c., we believe they have persevered to the utmost of their power, to support the best interests of the body of shareholders, and that they are eminently entitled to their best thanks, and unlimited confidence. It is evident, from the result of the meeting yesterday, a large majority of the proprietors are prepared to support the directors; the show of hands was greatly in favour of the guarantees they propose—while the result of the ballot was a majority of 6273 in favour of the directors. The result of yesterday's meeting (the first held in London) must have given them much gratification; and, notwithstanding the late, and indeed present, prostration of railway property, we congratulate the proprietors on the prospect of rescuing this valuable line from the dilemma, in which it has been placed by factious opposition.

Our intelligent correspondent, "Plain Facts," in last week's MINING JOURNAL has suggested an idea, which, if carried out, would undoubtedly have a most salutary effect on the mining interest. He recommends that "every mining company, both in England and Ireland, should send the MINING JOURNAL an annual statement of the produce of each mine, made up to the 31st December, and showing, besides the quantity of ore, its produce of copper, and the amount of money received for the ore." It is, of course, well known by all connected with the copper mining interest, that although the Ticketing Papers accurately record the amount of *public* sales, both in Cornwall and at Swansea, a very large quantity is continually being sold, by private contract, both from Ireland and Cornwall; nor with all our present *data*, including the comprehensive Parliamentary reports, which are annually published on the subject of copper, can we get at anything like correct returns.

There being no compulsion to sell at public ticketing, a return of the sales of copper ores by private contract would, no doubt, swell the annual amount to an extent of which we have no idea, as to quantity, average produce, price, &c.; and it would be a most desirable event, could we bring about the plan recommended by our correspondent. We fear, however, too many difficulties stand in the way of its speedy adoption, even if adventurers had not, under the present smelting monopoly, the fear of retaliation before their eyes; the owners of numerous mines, whose returns might be small, or bear no proportion to their cost, would, of course, hesitate to comply with the suggestion; while the smelters themselves would, of course, throw every impediment in the way of disclosing "the secrets of the prison house." Such returns would most certainly be a great desideratum; but we fear, without a Legislative enactment, compelling every mine to keep a correct account of the quantity raised and sold, its produce and price, and make an annual return of the same, the public stands little chance of being much further enlightened on the subject.

We may embrace this opportunity of directing attention to the series of papers, in course of publication by "Plain Facts," which will be to most of our readers valuable, as presenting a vast collection of "facts and figures," in connection with the copper and smelting trades.

Whatever form of infatuation is it that some of our good friends of the town of Falmouth should run up their griefs with so preposterous an emphasis, simply because their not very wholesome bailiwick is being enriched with reservoirs and fountains of fresh water, and for that purpose is undergoing just the necessary transformation and disturbance of its streets? We must hold the murmurers, one and all, to this statement—that the town has not suffered more than the necessary disturbance of its paved streets. It is, of course, a thing quite impossible that, where there is but one line of street—one communicating and direct artery in a town—any simultaneous and extensive alteration made in it should not be accompanied without a simultaneous and extensive interruption of its use; this is one of the penalties we must expect to pay for the improvements which the times, or our own particular circumstances, have rendered necessary; but if the interruption has lasted no longer, and extended no further, than, by the exercise of ordinary diligence, they must have done, then every whisper of complaint, and every word of condemnation, in all justice, should be instantly suppressed. It is, however, in this case, the special text of the discontented, that the interruption and inconvenience has exceeded the necessity of the case. At this distance, it is impossible for us, strictly and advisedly, to answer that charge; but what we cannot do, in this respect, ourselves, the inhabitants have done for themselves. They publish, in the *Cornwall Gazette*, their answer to that imputation, and their declaration is, in substance, this—that, from first to last, the works have been prosecuted with remarkable diligence and ability. This is the deliberate testimony of the parties in whose presence, and at whose doors, the alterations are carried on, and ought to seal up the lips of those who cavil vexatiously, or who censure ignorantly.

We remember, when London Bridge was building, the bargemasters complained of the interruption given to the navigation of the Thames; still the coffer-dams were all laid down, and for years filled up the water-way of the river, the stranding of the *Sally Ann* and the *Jemima*, and other craft of that class, against the upheaving piers of the hugh structure, notwithstanding. In a like sense, if the "Sally Anns" and the "Jemimas" of the town in question have made an unfortunate lurch or two, on returning from their bucolic gatherings, against the stones and clay thrown up in furtherance of the necessary improvements, we trust they have suffered little, and will lose less, by the accidental collision. The rumour of the town is, that these complaints originate in the corporation chamber, or with an individual professional member of that body. Of course it does not signify a single farthing whether this is really a part of the in-door gossip of the corporation, or the out-of-door garrulity of some constitutional fault-finder; however that may be, upon the testimony of the respectable parties before referred to, it is equally false and unfounded. The benchers of the inns of law, in this metropolis, are said to eat out their terms; with more truth it may be said of too many of the provincial corporations, that they sleep out theirs. In some cases we could mention, and we are far from being sure that the case of Falmouth is not one, instead of being vigilant—instead of being awake and watchful for the interests and happiness of the communities, for the benefit of which the statute has given them existence—they betray a deplorable indifference to their most perpetual and most prominent wants—checking rather than facilitating, discouraging rather than assisting, the introduction of those public conveniences which are the life and health of those portions of the population committed to their guardianship. It would be better to have no corporation at all, than a corporation that stretched itself out like a dead weight upon the reviving energies of the townspeople, or on the energies of those who would assist them.

The transfer very recently of the Bristol Dock property from the dock company to the corporation of that city, is an event upon which we trust we have a just occasion to congratulate our Bristol friends. Whatever furnishes an expectation or a hope of reanimating the mercantile elements which have slumbered now so long in that ancient city, will be a source of gratification, we have no doubt, to the whole of the west of England. Bristol, almost within living memory, ranked as the second port in the empire; and although there is little probability that by any efforts she can overtake her Lancashire rival, yet we confidently believe it is in her power so to gird up her strength, and recruit her energies, that, in a few years, her vessels may be seen in every sea, and the air of her port glitter with half the flags of Christendom. We have no doubt in this case, a new, and we trust a more vigorous, administration of her shipping affairs, a greatly reduced tariff of port dues, and also that special attention to the convenience of merchant vessels in the loading and the delivery of their freights, are some of the advantages secured under the new bill. The position of Bristol, so proximate to the waters of the Atlantic, and her intimate connection with the great metropolis by the line of the Great Western Railway, are altogether superior advantages that must largely contribute to the mercantile prosperity of the port. But, as in other cases, the advantages of position and connection enjoyed by this emporium of commerce, will tell very little on the interests of the place, unless the merchants—the men of property and of practical business habits—are content to relinquish small objects and small aims, and are willing to dedicate their wealth, their time, and their abilities to the building up and re-establishment of a great mercantile city.

The expensive nature of bridge-building, particularly on our railways, and the great importance of the necessity which exists of their possessing a combination of strength, durability, and economy, renders it a duty on the part of engineers in connection with such works, to scrutinise every system coming within the scope of their experience; and, if they would publicly express their opinions, they would, doubtless, tend to a full investigation of the subject. We inserted in our last a short communication on the subject of RIDER'S RAILWAY BRIDGE from "A Railway Shareholder," and in which he expresses similar views. Practical economy in these expensive undertakings is "much needed;" and had it fortunately been somewhat more heeded in the establishment of the system, there would have been less of that fluctuation in the share market, which has been the ruin of hundreds, and swelled to a plethora the pockets of the wealthy jobber. If our professionals would take a fair and unbiassed view of the works and opinions of others, and be less prejudiced in favour of their own productions, engineering science would make more rapid strides, and tend more to the general good of the public.

CONTRACT FOR COALS FOR INDIA.—The East India Company will receive tenders on Wednesday, the 22d inst., for 5000 tons of the undermentioned descriptions of coal, to be delivered at Bombay:—West Hartley, Carr's Hartley, Buddle's, Davison's West Hartley, Hartlepool, Stewart's Wall's-end Steam and Glasgow Hard Flint (screened), Risca Black Vein (handpicked). Other contracts, for Aden, on the coast of Arabia, and the different presidencies with which a steam communication is already established, will follow the above.

CONTRACT FOR COALS FOR SINGAPORE.—The Board of Admiralty has also given notice that, on Thursday, the 23d inst., they will receive tenders for delivering at Singapore, 1500 tons of Welsh coals, for the service of her Majesty's steam-vessels.

CONTRACT FOR COALS TO THE PACIFIC.—The Commissioners will be ready likewise, on Thursday, the 23d inst., to receive tenders for delivering at Valparaiso, or any port in Chili or Peru, as may be directed, 1000 tons of Welch coals, for the service of her Majesty's steam vessels on that station. The tenders must be directed to the Secretary of the Admiralty, and the parties contracting to be bound over in sureties of 900*l.* and 600*l.*, for its due performance. We have stated before, there is too much partiality, or influence, practised in the contracts by the officials, and which ought to be reformed, as it prevents a fair competition on the part of the majority with the monopoly. The demand of coal, iron, and copper for India is rapidly on the increase, and will extend as railways and steam communication becomes developed—therefore the contracts should not be confined to the *few* influentials, at the East India House especially.

BLAENAVON IRON-WORKS.—We have received a communication from Mr. Edwin Deakin, of Blaenavon, accompanied by an illustrative map, descriptive of the Blaenavon property. The map, which is well executed, besides taking up considerable space, we do not think of a character for insertion in our columns, but will endeavour briefly to describe the situation of the works, as far as Mr. Deakin's communications will enable us. It appears there are 1 pair of ironstone and coal-pits, to the bottom veins 140 yards, with 40-horse steam-power; 1 ditto, ditto, 76 yards, 40-horse ditto; 1 ditto, ditto, 165 yards, 40-horse ditto; 1 ditto, ditto, unfinished; a balance-pit, down to the upper mines, 30 yards, 20-horse water-power; a water-wheel, working 3 slopes; ironstone and coal, 159 yards, water-power 30-horse; 1 ditto, 2 pits, 130 yards, 30-horse water-power; 1 ditto, 2 pits, 80 yards, 30-horse water-power; 1 ditto, 1 slope, 200 yards, 20-horse water-power; 1 ditto, pumping from deep level, two lifts, 40 yards each, 20-horse water-power: making the entire length of lift 1051 yards, worked by 270-horse power, 150 of which is water-power. From the diagram, it would appear that the new works in particular are happily situated close to the River Avon Llwyd, with a large reservoir, and abundance of springs in the rear. Feeders of water run in all directions through the property; the works are well concentrated, and appear well situated, in every respect, for the manufacture of iron.

IMPROVED STEEL PENS.—In the use of the best steel pens the nibs are continually undergoing oxidation, wear to a fine point, and in a short time become useless. Drs. Babbington and Spurgin have taken out a patent for the application of a piece of zinc to the nib, whereby a galvanic action takes place, and the zinc alone being destroyed, the nib of the pen is worn only to the extent of the friction occasioned in writing.

OUR LOST MARKETS.—No. II.

We know that popular feeling is somewhat opposed to the view we took in our last week's statement of the pressure occasioned by direct taxation, and especially by the land-tax upon the continental markets. We deem the circumstance, however, to be sufficiently important to justify our drawing attention to the fact, that markets are small, and consumers impoverished, in countries suffering under a great pressure of direct taxation. On the other hand, we find a more elastic play of industry in such countries as have not taxed extravagantly the first source of production, and, consequently, of wealth. Amongst the latter we may cite the United States of America and Russia, the two countries to which we are now indebted for supplies of food in years of scarcity. Were, in those countries, every acre of land ploughed to be immediately stricken with such a tax as is levied in Prussia, Austria, Italy, and France, the extension of cultivation, which invariably follows a demand from England, and which now provides a stock on hand to meet our next famine, would not take place, and we should be unquestionably greater sufferers than even the hampered agriculturists of those countries. The farmers of Russia and of the United States would then, too, be even worse customers of our manufactures than they now are. At present, the difference which we find in the two markets, from which we import so much, can (under similar exemption from land-tax in both) be clearly traced to the effects of the import tariffs of those countries. When, for instance, we contrast the imports of Russia, containing 60,000,000 of inhabitants, with those of the United States, containing less than 20,000,000, we find much matter of astonishment.

VALUE OF BRITISH MANUFACTURES IMPORTED INTO

	Russia.	United States.
1828	£1,318,936	£5,810,315
1838	1,663,243	7,585,760
1846	1,725,148	6,830,460

It must not be forgotten, that a considerable portion of the shipments of British manufactures to Germany and Holland go to the fairs of Leipsig, Frankfort-on-the-Oder, and other places, whence they find their way into Russia, either through the regular mercantile channels, or through the agency of smugglers, who are encouraged by the excessive import duties of Russia. Still, if we double the amount stated above as sent to Russia, we are far from having the consumption which that market in fairness ought to demand. The limitation in the Russian demand must be exclusively laid to the charge of the prohibitive tariff of that empire.

In order to appreciate the extent of the German markets, we have to deduct from the sum which figures as the value of our exports to German harbours, the quantities which feed the export trade of those harbours. Thus the exports of Hamburg and Bremen are very considerable both to America and the Levant. Rotterdam ships large quantites of English goods to Java and the Dutch Archipelago. If we deduct the quantities thus exported, and the consumption of the countries not comprised in the Zollverein, from our exports to Germany and Holland, large as these seem to be, we shall see that little finds its way to the internal marts of Germany beyond what is destined for re-exportation to Poland, Russia, and the Levant. Of this little the greater part consists of sugar and coffee, temporarily consigned to London and Liverpool, through the accommodation offered by our large mercantile houses, or of yarns to feed the German looms and knitting needles. With these deductions, the German markets dwindle down to very small consuming powers, although the Zollverein tariff is not exactly prohibitive, and roads and rivers (certainly not a little hampered with exactions), facilitate the distribution of commodities. In the German states, as in France, we are, therefore, inclined to lay the blame of non-consumption more on the system of internal, or direct, taxation than on the import tariffs.

Our exports of manufactures to Germany, including Austria, consequently to countries comprising 100 millions of industrious and enlightened inhabitants, have been as follows:—

VALUE OF BRITISH MANUFACTURES IMPORTED INTO—

	1828.	1838.	1846.
Germany	£4,804,104	£4,988,990	£6,666,532
Holland	2,142,736	3,549,429	3,576,409
Prussia (Baltic)	179,145	155,223	544,035

If we deduct from the 10,727,036*l.*, which represents the value of goods exported in 1846, 2,000,000*l.* as the value re-exported from Dutch and German harbours—a like quantity as consumed in Holland and the extra Zollverein States—and 2,000,006*l.* as sent in transit to the Russian and Turkish empires, we find the German market dwindle to less than 5,000,000*l.*, or, for a population of 100,000,000, to less than one-sixth of the value of the market of the United States. France, with 34,000,000 of inhabitants, took the value of 2,715,963*l.*, or in about the same proportion. Italy, with 20,000,000 of inhabitants, took, in the same year, 3,391,022*l.*, the larger proportion being, in a great measure, owing to the difference in the tariffs of France and Italy. To sum up, our whole trade with the rest of Europe did not exceed 25,450,000*l.*, amounting, for countries peopled with 260,000,000 of souls, to little more than three times the sum taken by the United States, with less than 20,000,000 of inhabitants.

The impoverishing effects of the land tax, in continental states, may be imagined when it is known that the decree of the Empress Maria Theresa, regulating its amount for Austria, declared the state to be owner to the extent of one-third of all the land of the country. The Ministers of that Empress availed themselves of the transition from serfdom to liberty which was achieved for the peasants of Germany in the last century. They left the landowner one full third, mostly estimated in labour and produce, as his rent; one-third was assumed sufficient to support the cultivator; and one-third was appropriated to the revenue of the state. This was taken partly in produce and partly in money. The abstraction of so much of the yearly production of the country to keep up Spanish successions, pragmatic sanctions, and to carry on war against the French revolution, naturally prevented all progress; and Napoleon found the country without roads, and less provided with the means of exertion than it was under Charles V. The example of Maria Theresa had been followed by Frederick II. and other German princes. On the conquest of Silesia, the land tax was formally fixed, as in Austria, at one-third of the gross produce. Italy had previously become subject to a similar drain; and, after the revolution the *impot foncier* was adopted as a standing item in the budget, and continued through the empire and the restoration, on terms quite as severe as in Germany. The distinctive characteristic of a land tax is its inequality of pressure, notwithstanding all the pains taken to classify soils. The shiftings of trade, the progress of roads and inventions, produce changes of value which no ordnance survey can point out. But, in addition to this, the capital which ought to have been invested in buildings, roads, and canals, was taken away, and is so still, *before* it circulated as *wages*. Were the sums now taken the moment they show themselves allowed to set enterprise going, they would support the workman until he had produced something to increase the national earnings. The difference is perceptible in the trade returns between countries which thus strangle their energies at the birth, and such as allow their products to circulate and promote trade and manufactures; and we think it is easy to show that similar causes at this moment operate in closing, or diminishing, many of our own colonial markets, the condition of which we purpose to examine in our next.

The land tax forms by far the largest item in all continental budgets. In Austria it is one-fourth of the whole sum raised by taxation; in Prussia it is one-sixth; in France, with its accompaniments of transfer stamps and registry dues, it forms one-fifth of the ordinary revenue. On a rough estimate, from 25,000,000*l.* to 30,000,000*l.* is abstracted from the yearly production of the continent, at a stage which prevents its circulating as wages in trade and manufactures, and the labour market is, consequently, impoverished to this extent. Were this sum allowed to remain and fructify, it would ultimately furnish a much larger fund, from which, by a judicious system of indirect taxation, a much greater revenue might be raised, and yet the countries producing it would become rich and prosperous.

During the last few months, in the province of Burgos, a manufactory, called "Singular," has been established to reduce the minerals produced from the mine, "La Rosa," situated in the same locality; these works are very small, merely reducing diurnally 10 quintals of the mineral. The various minerals which present themselves in this mine are—carbonate of copper, with grey copper ore, some argentiferous copper, silex in a conglomerate formation in a chalky earth. The method employed in this establishment is that of cementation, and the produce is metallic copper, Prussian blue, and English red (*rojo Ingles*). There is no doubt, if worked on a larger scale, and with more enterprise than at present pursued, the results would be proportionally greater.

IMPROVEMENTS IN THE MANUFACTURE OF METALS, AND IN COATING METALS.

[Specification of patent granted to Alexander Parkes, of Birmingham, experimental chemist, for improvements in the manufacture of metals, and in coating metals.]

This invention, which is well worthy the attention of the metallurgist, is thus described by the patentee:—My invention (he says) consists in separating copper, and some other metals, from their sulphuretted ores, into the state known by copper smelters as regulus, or coarse metal, as hereafter described; and also in the metals by one process, or operation, of melting, from a regulus, or other sulphuret of a metal. I will first explain that, in order to obtain a regulus of copper from a sulphuret ore, I take the usual precautions practised by smelters to form a fusible slag—that is to say, by a due admixture of the ores themselves, or with other matters, as fluxes, as is well understood; and to every ton of such ore so mixed, when containing about 10 per cent. of metal, I add, before or during the melted state, from 100 lbs. to 150 lbs. of sulphate of lime, or of soda, or of baryta, or of potash, and I keep the whole in a melted state, until the regulus becomes separated from the earthy matters, as is well understood; I find the use of the above-named substances to produce a regulus richer in metal than by operating in the usual way. I then tap the furnace, as is usually practised, either into sand or water. When operating, as above described, I sometimes (as is the ordinary practice) add a carbonate, or oxide ore, whereby I obtain a regulus still richer in metal; I treat this product in the usual way practised by smelters to obtain the metal; or, what I prefer, is to treat it as hereafter directed. Although I have only spoken of copper in the above description, a corresponding treatment is likewise applicable to the sulphuret ores of silver and antimony; but when I operate on the sulphuret ores of silver, I add from 5 to 10 per cent. of scrap-iron. Although I have mentioned only the sulphates of lime, soda, baryta, and potash, the sulphurets of the same substances, and other sulphates, and their sulphurets, may be employed, but not, I believe, so advantageously. In treating the produce, or regulus obtained, as above described, or other regulus, or sulphuret of copper, to obtain the metal by one operation of melting, I proceed as follows—The principle on which I act is to mix with a regulus, or other sulphuret of copper, such a metallic compound, that the oxygen therein contained shall desulphurise the sulphuret in the act of melting, and allow the metal to separate.

I employ for such purpose a carbonate, or oxide, of copper, whereby I obtain copper fit for refining by the ordinary process, or I employ a carbonate, or oxide, of zinc, in which case a great part of the zinc will form an alloy with copper. In all cases, when employing zinc to produce an alloy, I use the flux hereinafter described; I find also that the sulphate of copper, of iron, and of zinc, will answer, but they will require to be used in larger proportions than the oxides, and I do not find them so advantageous; and I, therefore, prefer an oxidized compound of copper, when operating upon the sulphuret of copper, or an oxidized compound of the same metal as the sulphuret under treatment, excepting when I wish to obtain an alloy; in such cases I use, by preference, an oxide of the other metal which is to be alloyed with the metal. I do not, however, confine myself to any particular oxidized compound of metal, so long as the same is capable of acting in reducing a sulphuret of metal as herein explained. When reducing a regulus, or sulphuret of copper, containing 30 per cent., or thereabouts, of copper, I prefer to use a carbonate, or an oxide, of copper, containing the same per centage of metal; in which case I take equal quantities, by weight, of the two matters; but, in case the sulphuret contains more sulphur than is equivalent to the oxygen contained in the oxide, I add a larger proportion of the oxide compound. And, for the purpose of carrying out this process, I first introduce the sulphuret into the furnace, and fuse it, removing any slag that forms previous to introducing the oxide or carbonate, which I do by degrees, occasionally removing the slag, and I gradually add about 10 per cent. of a flux, composed of carbonaceous matter and chloride of calcium, or chloride of barium, in equal proportions; in about three to six hours the sulphuret will be decomposed, and the metal become separated. In case I want to operate upon an ore containing excess of sulphur, as is frequently the case with poor ores, I prefer to obtain the copper in a state of regulus by the means herein described. And, in order to ascertain the quantity of sulphur, or of oxygen, in the compounds before named, I submit them to analysis in the usual way, or, in place thereof, I fuse a mixture of the two in a crucible, and thus ascertain the proportion of the ingredients requisite for mutual decomposition, and I prefer, in all cases, to have the sulphuret rather in excess, and thus have a small proportion of the sulphuret undecomposed (say, 2 or 3 per cent. of the whole); and this remaining sulphuret I introduce into the next charge.

I would remark that, although I have spoken only of obtaining copper from a sulphuret, the description above given is also applicable to sulphurets of silver and antimony. When I am treating sulphuret ores of silver, I prefer to obtain the regulus by means of the same sulphur compound described for copper, as before stated, and subsequently decompose them by the carbonates of zinc or of copper, using therewith from 5 to 10 per cent. of scrap-iron; and I observe the same directions as before given, when treating the sulphurets of copper. When I am treating a sulphuret of antimony, if it contain much earthy impurity, I fuse it in the manner described when obtaining a regulus of copper; and I calcine this product at a low temperature, and thereby obtain an oxide of the metal; I then employ this oxide in about equal proportions with a sulphuret of antimony, not calcined, and fuse them together, adding a flux as directed for copper, and thus obtain the metal. In place of employing oxidised compounds of metal as the means of decomposing sulphurets of copper at one operation of melting, I, in place thereof, employ the oxygen of the air. For this purpose, I act on a melted regulus of copper. I recommend that it should contain at least 30 per cent. of copper in a reverberatory furnace, by causing currents of air (either cold or hot) to be forced in contact with the melted materials, preferring to use hot-blast for such purposes; and, in working according to this method, I cause numerous openings to be made in the fire-bridge or in the roof, or other part of the furnace; and, by suitable blowing apparatus, I force in streams of air—so that they will come in contact with the melted matter; and I remove the slag from time to time as it forms, and the sulphuret will thus be progressively decomposed, and the metal ultimately caused to separate.

My improvements in coating metals apply to iron and steel, and consists in the use of an alloy, composed of about nine parts lead, and about three parts antimony; or of about nine parts lead, about one of tin, and about one of antimony; and I fuse these alloys in a convenient vessel, and keep them in a melted state, under a flux composed of chloride of barium, or of sodium, or of the two combined, and I prefer to have such flux of considerable depth upon the melted alloy. In order to coat therewith, I first carefully clean the articles, as is well understood, and immerse them in the melted metals, till the desired coating is obtained.

Patent-office and Designs Registry, 210, Strand, Nov. 7.

IMPROVED ROTARY ENGINE.—Mr. Isaiah Davies, engineer, of Birmingham, has taken out a patent for a rotary engine, which is considered to be a great improvement on one patented by him some years since, and in its working is said by practical men to bid fair to realise all that the most sanguine have ever conceived of the anticipated effects of rotary engines. It is difficult to describe the principle without diagrams; but it consists of a pair of revolving pistons, working on one continuous shaft, in a cylinder divided in the centre into two compartments. These pistons, or cams, have a peculiarly formed shape, or curve, by which they regulate the motions of the sliding or steam stops. The two pistons, working in separate departments of the cylinder, secure the parallelism of the shaft and the harmonious action of the steam inlet and outlet valves. The whole arrangements appear to render the working of the several parts almost without friction; and the security of the metallic packing boxes of the shaft keeps them perfectly steam-tight. The patentee claims for these stuffing-boxes the modes peculiar to them—such as a rim piece, by which the body of the box fits closely into the aperture of the cylinder cover; the passages left for the steam at the back of the cover; the two concentric steps, or ledges, on the inside—one of which serves as a seat for the concentric segment, and the other as a seat for the outer rim of the top cover; the concentric segments, in so far as the outer or larger series of them have seats cut out in them for the inner or smaller segments, and as having such vertical spaces left between as to allow of their moving as well inwards as sideways, and the combined use of metallic springs and steam-pressure to press the said concentric inwards. He also further claims the peculiar combination of parallel levers, and a double-acting cam motion, whether to work his own or other description of steam-engine. He further claims the mode of connecting the engines in locomotive carriages with the driving-wheels, as far as regards the peculiar curve given to the gabs, whether the engine is rotary or reciprocating. The specification is very long, and appears to be well and explicitly drawn.

Original Correspondence.

MINING IN SPAIN.

SIR,—As the silver mines in the district of Madrid are comparatively little known, perhaps the following interesting details, drawn from authentic documents of the mines, Santa Cecilia, Suerte, and Fortuna, the most celebrated in that locality, may not be uninteristing to your readers.

SANTA CECILIA.—This mine, situated between those of Suerte and Fortuna, is the one in which the lode was first encountered, and which branches off to the other two, and no doubt will, when more developed, lead to further and more important discoveries. The lode is composed of barytes, which appear intermixed with different varieties of silver and iron ore, and has generally an extent of from one to three feet. A shaft has been sunk on the lode to a depth of 78 varas, in addition to which there are three shafts of a smaller depth. The first level is about 29 varas from the surface; the middle is 16 varas below the above, consequently, 45 below the surface; and two are driven at the bottom of the shaft; the longitudinal extension of the sett is 200 varas. Up to the present date, there has been extracted from this mine 47,000 quintals of mineral, which contains each, on an average, 2½ ozs. of silver—this has been principally obtained from the upper level. It is calculated that from this part of the mine there can be produced 100,000 quintals, of a greater average than 2½ ozs. of silver; from the middle level 80,000 quintals, and when the levels are opened at the depth of the 77 varas, 120,000 quintals—making a total of 300,000 quintals; this could be extracted in the three succeeding years, at an average of 84,000 quintals annually; the presumed cost of the production of each quintal will be 10 reals. On comparing this with the value of the mineral that has already been sold, it appears that, during the three years, the gross proceeds can annually be made 2,940,000 reals, and a probability of the workings being extended deeper. The composition of the mineral, when divided into five classes for the refinery, is the following:—8 quintals green silver (*plate verde*); 18 minerals of first class; 240 of second; 120 earths of first class; 614 of second class = 1000. The quantity of mineral sent to the works for refining, during the year 1847, was as follows:—

294 quintals	17 pounds	green silver	
708	„ 95	„	minerals of the first class
4274	„ 22	„	ditto of the second ditto
881	„ 16	„	earths of the first class
228	„ 46	„	ditto of the second ditto
6386	95.—Total value, 574,404 reals 23 marivedes.		

The directors of this mine have declared a dividend to the adventurers of 500 reals a share, the present cost of which is 200,000 reals paid up.

SUERTE.—This mine is situated to the east of the former, and on the same vein; it has a shaft of 44 varas in depth, of which only 18 have been driven on the lode, a slide having intervened, which has heaved the lode about 10 varas in a northerly direction: another shaft has been driven to intersect the lode at this point; this has been sunk a depth of 88 varas from the surface; on this two levels have been driven—the first, which is now in length 47 varas, is 39 varas from the surface, and one below, at a distance of 8½ varas, has been prosecuted to the length of 50 varas; in the first level the lode has been discovered of an extraordinary magnitude and richness. The superintendant of the mine calculates that 60,000 quintals of mineral, containing, on an average, more than 2½ ozs. of silver to the quintal can be produced in three years, at the rate of 20,000 quintals annually, and the quality of this is superior to the other mines, as the following classification of the mineral will prove:—One thousand quintals of stuff produced from this mine were composed of—green silver, 4 quintals; minerals of 1st class, 100; ditto 2d, 450; earths of 1st class, 124; ditto 2d, 322=1000 quintals.

It has been satisfactorily proved, by the sales already made, that the value of each quintal is 90 reals, which returns a profit of 75 reals on each. The result of this will be, that the 20,000 quintals would give an annual profit of 1,500,000 reals. The quantity of mineral which has been sent to the refinery is the following, with its different classifications:—

22 quintals	50 pounds	green silver	
902	„ 73	„	minerals of the first class
1909	„ 49	„	ditto of the second ditto
257	„ 97	„	earths of the first class
210	„ 14	„	ditto of the second ditto
3302	83.—Total value, 365,887 reals 33 marivedes.		

The directors of this mine have declared a dividend of 2000 reals a-share, the present cost of which is 2000 reals paid up.

FORTUNA.—The workings of this mine are contiguous to those of Santa Cecilia, in a westerly direction; a shaft has been sunk from grass to the depth of 103 varas, and another from the principal level 93 varas from the surface; the first level has been driven 31 varas from the first shaft, and has a cross-cut of 40 varas; 12 varas below this another has been driven in the same level as those of Santa Cecilia; this has reached a length of 50 varas; from this a cross-cut of 8 varas branches off, from which a shaft of 50 varas from the surface has been sunk; and there is another level, of the same length, been driven 25 varas below, with the intention of intersecting the shaft. The vein that has been explored here is a branch of the great lode; it is 20 varas in length, and 20 varas in depth, but not so rich as the others; a fifth part of the mineral appears to have been extracted.

According to calculations made by the superintendant, 75,000 quintals could be extracted in three years, at the rate of 25,000 quintals annually. From the data obtained in refining the mineral, it appeared that it averaged about 2½ ozs. of silver to the quintal: 1000 quintals were composed of—4 quintals of green silver; 43 minerals of 1st class; 409 of 2d; 312 earths of 1st class; 232 of 2d = 1000 quintals.

According to the prices which have been realised at the different sales, it has been calculated the value of the quintal is 55 reals, and presuming that 375,000 reals would be sufficient to cover the cost of working annually, a profit of 40 reals per quintal would be made, which would leave a yearly profit on this mine of 1,000,000 reals.

The quantities of mineral which have been sent to the refinery are—

24 quintals	77 pounds	green silver	
209	„ 99	„	minerals of the first class
2639	„ 28	„	ditto of the second ditto
55	„ 11	„	earths of the first class
120	„ 79	„	ditto of the second ditto
3089	94.—Total value of which has realised 219,249 reals 19 marivedes.		

The directors of the Fortuna have declared a dividend to the shareholders of 2000 reals a share—the present cost of which is 200,000 reals paid up. The directors of these mines had made a contract with the amalgamation works of La Constante, in the district of Gascuena, to reduce their ores at a reasonable rate; but, during the past year, having raised their prices for reduction, or given them the option of selling their ores at prices fixed by themselves, which was at so low a rate that the directors of the mines found it impossible to comply with them. In consequence of this, the directors of the mines have found themselves forced materially to reduce their strength, and partially suspend the workings of their mines and dependencies, a great number of workmen have been thrown out of employment. It is their intention to raise a small capital to erect works of their own; and it is sincerely to be hoped that shortly the mines, having conquered this difficulty, arising solely from the grasping avarice of the smelter, will again resume their wonted activity.

London, Nov. 4. C.

EARTHENWARE PIPES FOR CONVEYING WATER.

SIR,—The earthenware pipes, with spigot and faucet joint, for conveying water from a distance, referred to by your correspondent in a penultimate Number, is by no means peculiar or confined to Germany. I am about to employ a similar conduit for an extent of 310 ft.; but the joints I shall simply close by Roman cement. I have great objections to the conveyance of water through *wooden* pipes; and these apply with tenfold force to *cast-iron* pipes, which essentially *alter* the condition of the water. Pipes of earthenware meet all the requirements I could wish to stipulate for. Wood may minister to animalcular *infusoria*. Iron changes the chemical character of the water, or impregnates it with ferruginous matter; while earthenware pipes will, when inlaid in the earth, preserve it cool and pure as when it bubbles from the spring, as in my case.

Portland-place, Hull, Nov. 7. J. MURRAY.

NEW RAILWAY-TRAIN ALARUM.

SIR,—Mr. Holmes's telegraph alarum signal reminds me of a very simple, effective, and inexpensive plan, which has been for some time the object of my thoughts, for communicating *instanter* with the guard, in case of accident, or danger, on railways, and directing him at once to the carriage in which the signal originated. A metallic cylinder is supplied, at the requisite intervals, with condensed air, by means of a piston. To this

condensed air vessel a *whistle* is attached, which sounds the alarum the instant a spring valve is opened—this valve is connected with each carriage of the train by means of catgut cord, or other material. The air cylinder is placed close to the guard, and is under his control.

In order that the individual carriage, from whence the signal proceeds, should at once be recognised, and made responsible for the stoppage of the train under false pretences, each cord is threaded through a small plate surmounting a bell, suspended between two supports, and supplied with a swing pendulum disc, bearing the *number* of the carriage, to which the bell exclusively belongs, the continued vibrations of which will enable the guard to identify the carriage. The bells are suspended in a row, with the respective numbers of the various carriages on their pendulum plates, and are severally connected by a common cord of communication with the spring-valve of the air-cylinder. It will thus be seen, that I employ *condensed* air to sound the whistle, and have nothing whatever to do with electro-magnetism while the application is confined to railway trains, nor can it ever be confounded by the guard with the steam whistle of the boiler.

Portland-place, Hull, Nov. 7. ——— J. MURRAY.

BUILDING STONE USED IN THE NEW HOUSES OF PARLIAMENT.

SIR,—I have condemned, from the very commencement, the building stone used in the construction of the New Houses of Parliament; nor did it seem to me to require any discrimination whatever in drawing an inference which now appears to have been only too well founded. Its physical structure, as well as chemical composition, seemed to me antagonistic to that enduration which would enable it to weather atmospheric agencies. As things are now managed, *favouritism*—the bane of science and the foe to truth—mars the progress of good. Because a particular magnesian limestone, from a specific locality, had withstood, in *certain* districts for centuries, the "wear and tear" of the atmosphere, it was inferred by these *sçavans*, that ALL magnesian limestone would be *equally permanent*—let the *locale* be what, or where it might, as if the *Apollo Belvidere*, which resists intact the atmosphere of the *Campagna* in the open corridors of the Vatican, would sustain uninjured the atmosphere of Britain! This was not a reasonable expectation, and assuredly anything but warranted in the aspect of the magnesian limestone formation, or the "weathering" of dolomite.

On the other hand, consider the durability of the granite and syenite of the Channel Islands, as well as that of Aberdeen, and the contrast is as striking as it is extraordinary. I do not mean to say that *some* kinds of granite are not liable to disintegration and decay. The phenomenon of the "Cheesewring" in Cornwall would rebuke the conclusion, and varieties there are which *desquamate;* but such instances are the *exception*, nor, as far as I am aware, will even this exception apply to *syenite*, and the mightiest monuments of aboriginal Egypt attest its permanence and durability through the lapse of patriarchial ages. That the *frail* structure of St. Stephen's Palace will, at no distant period, present the miserable aspect of the edifices of the "city of colleges," if not soon *casehardened*, there can be no reasonable doubt; and it appears to me that this would be no difficult task. Of course, though I refer to the buildings of Oxford, I merely refer to their *ruin*, being quite aware that this ally of the "Stonesfield slate" is a widely different formation from the magnesium limestone.

Portland-place, Hull, Nov. 7. ——— J. MURRAY.

LIGHTING BY ELECTRICITY.

SIR,—Having watched with much interest the progress of galvanic electricity to artificial illumination for many years, I read with much pleasure your report of Mr. Staite's lecture at the Hanover-square Rooms, on Monday week, in last Saturday's Journal. That the application of electricity to domestic and public illumination is practicable, is a problem long since solved; but that practicability can be carried out to no useful purpose, until it can be thoroughly relied on to be perfectly free from any common accidents—that the conductors can be securely insulated, so as to be free from every casualty—that the light will last, and keep up a regular brilliancy—and, more, that its economy is much greater than the use of carburetted hydrogen gas.

All this must be proved before the public will be induced to throw up the whole of the present great establishments which now supply our towns with light, which would certainly be the result; for, although the change would be introductory, and somewhat slow, gas property must immediately suffer a ruinous depreciation. This, however, is not the point, in a scientific and politic point of view, as its superiority, in every point, once established, it must make way. Mr. Staite, in his lecture, states that he can produce a light equal to 100 wax candles for 1d. per hour; so far the economy is all in his favour; but the power of keeping up a "continuous" brilliancy is what I fear. Mr. Staite's apparatus, too, from what I recollect of his specification and drawings, is delicate and complex, and liable to get out of order; and it is in some of these minor points where I fear the difficulties will be found. I am a great admirer of the electric light—should be much pleased to see it carried out, and heartily wish Mr. Staite success.

Finsbury-square, Nov. 9. ——— GALVANO.

VENTILATION OF MINES.

SIR,—In looking over "Observations on the Ventilation of Mines, with a Description of a New Mine Ventilator," invented by W. P. Struvé, I observed the following:—"In the mine under consideration, there are 75 miles of passages, with only one pit, 13½ feet in diameter, 141 fms. deep, for ventilation, drawing coals and pumping water. The quantity of air estimated to pass through the mine is 29,250 cubic feet per minute, and it creeps through 714 of the entire mine, at the rate of 1·1 of a foot per second. From these data, it appears that the mechanical force required to produce this current would be ·25 of a horse-power." Now, a statement like the above is rather unsatisfactory; Mr. Struvé, or some of your correspondents, will, therefore, perhaps be kind enough to point out the way in which the mechanical force of ·25 horse-power is arrived at from the above data.—S. D.: *Glamorganshire, Nov.* 7.

THE COINAGE.

SIR,—In any attempt to "decimalise the coinage," I would make a penny the standard; leave all our present coins as they are—issue nothing in future but a copper coinage of *farthings, halfpence*, and *pence*. A silver coinage of 5, 10, 20, 25, 30, 40, and 50 pennies value, each marked 5D, 10D., 20D., and so forth—never mind the names. "I gave you a 30," would sound quite as well as "I gave you a half-crown;" and a gold coinage of an ALBERT (with a double medallion of the Queen and Prince Albert, all the rest the Queen only), value 100 pennies—a VICTORIA, value 200 pennies; so much for the coins. The present coinage would be available until called in or worn out. Then, for the mode of keeping accounts, let *M*, mille, stand for 1000 pence; *C*, centum, for 100 pence; *X*, decem, for 10 pence; and *D*, for one penny.

Four farthings make	One penny—D.
Ten pence make	One decem.—X., 10, D.
Ten deci	Centum—C, 100 D,
Ten centi	Mille—M, 1000 D.

It would be very easy thus to keep all small accounts; for instance—

Thompson.	*Bought of Johnson.*
2 lbs. of tea, at 60d.	*D.* 120
3 lbs. of sugar, at 5d.	15
50 lbs. butter, at 10d.	500
100 lbs. bacon, at 8d.	800
£	M C X D.
	1, 4, 3, 5 = 1 4 3 5.

The national accounts, bank notes, and bills of exchange, would require revolution, but you cannot possess a decimal coinage, I believe, without a great change:—

Take Consols ..... £350,000,000 sterling.

might be altered next dividend thus—

350,000,000
20
7,000,000,000
12

84,000,000,000, or 84 millions of millia consolidated.—The interest 2,520,000 millia per annum.

Thus the holder of 1000*l.* Consols would stand in future for 240 M Consols, and his interest 7 M 2 C per annum—

(*i. e.*, 240,000 pence ..... 7200 pence.)

Bank notes might as easily be made from 1 to 1000 millia as for so many £ sterling.—Bills of exchange would naturally follow the same rule.

Foreign exchanges, cents, dollars, francs, florins, and rupees, would be easily reducible.

The great bugbear is the getting rid of the £ sterling; which, in fact, has, in times past, frequently altered in value. The intrinsic value must always be left to the Government metallurgists. URBANUS.

Hornchurch, Essex, Oct. 26.

LAW OF PATENT RIGHT.

SIR,—Can you give an answer to this question:—A. takes out a patent for the manufacture of an article. A patent is afterwards granted to B., for making the same article (nearly) under another process, after a contest with A.—Can the licensees, under B.'s patent, be sued by A. for infringement; or must A. attack B., or his patent, by *scire facias*?—A READER.

New Cross, Nov. 9.

[We have submitted the question of our correspondent to Mr. Campin, the patent agent, and have to inform him, that if the invention of B. be really similar to that set forth in A.'s specification (for this is the main point), B.'s licensees will be liable to a suit on the part of A. (the fact of their being licensees not shielding them); still A. may attack B.'s patent by *scire facias*.]

RADLEY'S METAMORPHOSES OF IRON.

SIR,—What can be the *data* upon which Mr. Leighton presumes to denominate "the tap slag" of the puddling hearth a "carboxide of iron?" Does Mr. Leighton forget that there are four principal varieties of what he denominates "cinder," thrown out as refuse from iron-works?—1. The blast-furnace dross, constituted, under favourable working circumstances, of silicates of lime and alumina; the former streaked blue with artificial ultramarine; the latter tinged green by protoxide, or brown by ferrate of protoxide of iron?—2. Blast-furnace "scour," consisting of silicates of lime and alumina, commingled with silicate of protoxide of iron and ferrate of iron, lime, and alumina?—3. Finery cinder, a genuine bi-silicate of iron?—4. Tap slag of the puddling and blooming hearths, which latter is a most singular compound, neither to be tortured into significancy by Mr. Mushet, nor denominated by Mr. Leighton with a *fanciful* name? Can no one of the astute metallurgists of the *Mining Journal* give us some correct notions from these *opprobria doctorum* of the iron art?

Vauxhall, Nov. 6. ——— W. RADLEY, Ch. E.

IMPROVEMENTS IN OBTAINING AND APPLYING MOTIVE-POWER.

RESPECTED FRIEND,—I was much pleased in perusing the sensible and candid remarks made on J. Weston's invention by your intelligent correspondent, J. De la Haye, especially where he refers to the principle and plan of supplying locomotive engines with a continuous stream of cold water for condensation. Although he is not an "eminent engineer," yet his ideas would not disgrace the most talented of "the eminents," *through whose vast conceptions, reckless schemes, and extravagant proceedings*, many proprietors of railways are now severely suffering; and, unless I am mistaken, ere many months expire, the proprietors in many important lines will have to endure a still higher degree of suffering than that which they are at present labouring under. But, to return—

It is a curious circumstance, that T. Clarke, of the firm of Clarke and Varley, patentees of an atmospheric railway tube, and of a very superior and effective atmospheric pile-driving machine, exhibited to me, about ten or twelve days before J. De la Haye's letter appeared, a plan for effecting a continuous supply of cold water, which appears very simple and certain, by which means he calculates to make a saving of 50 to 75 per cent. in consumption of fuel, besides lessening the size and weight of engine, &c., which circumstance proves indeed that two persons, unknown to and absent from each other, may think somewhat alike on the same subject. Thus much for your correspondent, J. De la Haye; and now a few words in reply to your correspondent, "Railway Shareholder," respecting Rider's railway bridge, with regard to which, permit me to observe, that the principle of construction and arrangement is somewhat like Smart's patent, though I consider it inferior both in arrangement and economy; neither of which plans, in my opinion, are equal, for scientific arrangement, or economy, to the form known by the term of bow and string, or arch suspension—a model of which (I believe the first ever made entirely of wrought-iron) I constructed at Liverpool about 20 years ago, which I exhibited to the late *George Stephenson, and the directors of the Liverpool and Manchester Railway*, and subsequently made a foot-bridge on the plan for the Newcastle and Carlisle Railway Company, at Newcastle, about 25 ft. long, and 5 ft. wide, which contained about 14 cwts. of wrought-iron, and which supported with perfect safety a load of 10 tons, at a cost considerably under 20s. per foot—the principle of which has been successfully adopted by Robert Stephenson, M.P., in the construction of what is called the High-level-bridge, across the Tyne at Newcastle.

If, as is often the case with viaducts, a head-way under the floor is unimportant, then the plan of under suspension will be found still more economical by from 20 to 30 per cent. The principle is the same that is applied in constructing the machines now adopted for moving large blocks of stone, timber, &c., which may be seen in use at many of the public buildings now in course of erection, and also at many of the timber and stone wharfs. A particular description for constructing a viaduct on the plan, accompanied with an engraving, was published, in 1831, in *Dr. Lardner's Cyclopædia* (Volume on Iron and Steel), page 118, in which the Doctor states that the principle cannot be doubted. T. MOTLEY, C.E.

London, 11th mo. 6.

IMPROVEMENTS IN OBTAINING & APPLYING MOTIVE-POWER.

SIR,—I do not wonder at the disappointment my specifications (?) have occasioned; but I suppose your readers are aware that abstracts of patents are not generally made by the patentees—and when my old friend, "Steam," acknowledged that all he knew of my inventions was what he had gathered from these abstracts, and a little hearsay, I was prepared to make some allowance for his *rather* uncourteous observations. There can be no doubt that every candid objection that may be brought against an invention is of real service to the inventor, as nothing but a thorough examination of its principles will determine its merits; and, if an invention will not bear the test of reason and fair argument, the sooner it is thrown aside the better for all parties concerned. The result of the examination of my invention for railway propulsion, so far as it has gone, is highly encouraging, and helps to sustain one against the difficulties consequent upon a deficiency of means for carrying out his inventions. The objections which have been urged against the *pistons*, would apply with ten times greater force to a *continuous valve;* in the latter case, the difficulties would be insurmountable, whereas in the former they are easily overcome. In the first instance, there would be much less difficulty in detecting a leaky piston than in ascertaining what portion of a continuous valve was out of order; and, when detected, the communication with the main would be cut off, and the faulty part repaired, without in the slightest degree interfering with the traffic. Not so with the continuous valve—to repair which the vacuum would necessarily be destroyed, unless the tube was made in short sections, which would occasion still greater difficulties. In the second place, there will be no more difficulty in making joints of the valves in the pistons air-tight, than there would be in making the joints of the continuous valve air-tight; and, as it is certain that neither could be made *perfectly so*, it will be fair to conclude that the leakage will be in proportion to the relative *lengths* of the joints, which is a hundred to one in favour of the pistons; and, in the third place, the piston furnishes a means of applying the power of the vacuum direct to the train, whereas, by either of the arrangements Mr. De la Haye has had the kindness to offer, the power would be applied to the engine; and, having previously given my reasons for preferring the former, it is not necessary to repeat them. If Mr. De la Haye will refer to my first letter on the subject, which appeared in the *Mining Journal* of the 23d Sept., he will find that "the end aimed at by me is not to *instantaneously* condense the steam after it has passed the cylinders of the locomotive engine," but to charge the tube, as it advances from each successive piston, with the waste steam from the engine; and as soon as the tube comes to the next piston, to open a valve in it, and allow the steam to escape into the condensing or vacuum pipe, whereby a vacuum will be produced in the tube rear of the piston; and the latter being stationary, the tube will be forced forward by the external atmosphere acting on the valve that closes the back end of the tube. I submit that it would have been more correct to have compared a number of the pistons on my plan to an equal number of cogs in the wheels of a *single* "clock," which will generally go a considerable time without getting much out of order. If "it would not be essential to surround the pipe with cold water" in Mr. De la Haye's case, neither would it be in mine, but I question whether "a condenser at *each station* would be found sufficient." Having, I hope, shown to the satisfaction of all unprejudiced minds that, in a *mechanical* point of view, my arrangement stands higher than either of the plans suggested by Mr. De la Haye, the commercial part of the subject requires but few arguments, and this is the portion in which the "railway powers that be" are more particularly interested; and although they are, to a great extent, guided by their engineers, who, in many instances, are interested in maintaining the present system of locomotion, still I believe that, when I am prepared with the necessary calculations, &c., I shall be able to produce such an array of breeches-pocket arguments, as will prove too strong a temptation to the shareholders for them to be very easily prevented from adopting my plan. Nor do I anticipate any opposition from the "eminent engineers," whose influence is so much dreaded by other inventors. No one can expect them to lend their support to a system that *they* believe to be bad; nor scarcely can we expect them to give full countenance to a plan that they inwardly believe to be *good*, if it is against their interest to do so; but when neither interest or reputation are at stake, they are as easy to be dealt with as other men.

On a former occasion, I stated that the original cost per mile for the pipe and pistons, for a double line, would not exceed 2000*l.* The calculation was made by a practical gentleman, of considerable experience, the pipe was set down at 1000*l.*, and the pistons 25*l.* each, and, supposing them to be about $\frac{1}{10}$th of a mile apart, making 40 per mile for a double line = 2000*l.*, he considered that this sum was more likely to be above than below the mark; and, as for the tube, it might cost 25*l.* per carriage—too insignificant a sum to be worth consideration, especially when we consider that nearly its entire cost will be saved in the engine. Now, as to the cost of two pipes and continuous valves, some idea may be formed from what has been done on the Croydon and South Devon lines, where the atmospheric apparatus cost 10,000*l.* per mile for a single line; and if we could suppose it possible, with smaller tubes, to reduce it to less than half that amount, the odds would then be four to one in favour of my plan. If it can be shown, that any other mode of combining the two principles would be more advantageous, I am not so prejudiced in favour of my own plan as to adhere to it when a better has been produced; but I have not adopted it without some reflection, nor yet without examining other arrangements, none of which, however, appeared to me to possess so many advantages; but to pretend that the details are *perfect*, would be to expose oneself to ridicule. However, after much serious reflection, I cannot help thinking that the *general feature* of the plan will withstand every attempt at improvement; but for one to take any particular credit to himself, for having hit upon the right principle, would be absurd—for new ideas are the result of some accidental circumstance, which might happen to any one, without the slightest effort of the mind. When the idea has been given birth to, *then* comes the necessity for the exercise of the intellect; and unless the person (inventor) to whom the idea has occurred is tolerably well versed in that branch of science to which his idea (invention) applies, he will be quite incapable of determining its value; and, as a knowledge of science takes years to acquire, most of us labour under this disadvantage, until, by some dear-bought experience—the best of all learning—we are taught wisdom; it is, therefore, not at all to be wondered at, that a large portion of patented ideas, or inventions, are valueless—that is, in regard to the purposes for which they were intended; but every attempt to accomplish an object must be of some value, though it fails—for it is well known that failures are the most fertile source of new ideas.

I, therefore, fully agree with "R. M.," that every one who has attempted (so I understand him to mean) to solve the problem of locomotion is entitled to a portion of the reward, whoever may win the prize. But "*philosophers* do not patent their inventions;" happy should I be were all inventions or scientific improvements patented to the whole family of mankind; but the rags and wretchedness of starving millions of our "dearly beloved brethren" proclaim that it is not so; nor can it be, so long as the "lights of the world" are enveloped in darkness. If the same encouragement was given for the solution of social problems as is swarded to men of science, there would be some prospect of a better state of things; but this class of inventors come worse off even than the poets, who generally manage to secure the privilege of ending their days in a garret, while they expire on a cross.—J. WESTON: *Douro Cottages, Portland Town, Oct.* 31.

PILBROW'S HYDRODYNAMIC SYSTEM OF PROPULSION.—This is quite a novel mode of railway, or canal transit, which has been patented by Mr. Pilbrow, of Tottenham, well known as the inventor of a defunct atmospheric railway. The plan is to lay down a main pipe, of about 5 or 6 in. diameter, between each line, and having, at about every 50 ft., branch pipes, leading to vertical pipes, fixed between the rails, termed "adjutages;" these are fitted with suitable cocks, or valves, from which a series of jets of water impinge on an apparatus attached to the train, and propel it in the direction of the jet of water. Stationary engines, water-wheels, or other suitable machinery, are worked at distances of seven or eight miles, and are employed in forcing water into the mains at a pressure of about 32 atmospheres, which will be about necessary to propel the trains at the required speed. At every length of tube there will be a receiver, standing about 10 ft. high, constituting a series of air chambers, in which the air will be condensed, according to the pressure of the water, and will maintain a permanent expansibility, ready to act immediately on the opening with the adjutages adjacent thereto. The power thus does not merely depend on the pressure maintained by the engine, but is directly acted on by the compressed air in the receivers, which will become reduced by the passage of a train, but afterwards attains immediately its proper elasticity. The arrangement necessary to be affixed to the leading carriage of a train is an inverted trough, having a series of buckets, or recesses, at such an inclination as properly to receive the jet of water as it issues from the nozzle of the adjutage; it then passes through a channel, and down into suitable recesses underground, or might be used again and again where the water is scarce. There is a self-acting apparatus attached to the axle of the carriage, consisting of a wheel, close to the flange of the bearing wheel, furnished with a long boss, and sliding on the axle; a number of rings are turned on this boss, in which the teeth of a pinion take—this is on a vertical shaft passing through the bottom of the carriage, and having a cross handle at top, worked by the guard, or other attendant, situate right in front of the train; when this handle is depressed, it opens the plug, admitting a rush of water; and, as the last rim of the wheel passes, it is closed. If the conductor wants to stop, he raises the handle, when the lever will not open the cocks, and, applying the breaks, stops the train immediately.

IMPROVED JOINTS FOR RAILWAY RAILS.—The many inconveniences attending the original mode of laying the rails, has been attempted to be avoided, either by a perpendicular lap-joint instead of a butt-joint, or by a different arrangement in the system of keying. None of the numerous patents taken out have, however, remedied the dangers attending that position of the ends when one is raised above the other, and which invariably happen on the rail in front of the locomotive being higher than the other—from the back rail being depressed by the passing weight. Mr. L. D. B. Gordon has patented a rail with a lap joint, by which means it is next to impossible for the loaded rail to sink below the one directly in front of it on the approach of the train, as the joint is underlapped; and, whatever advancing pressure there is, acts equally on both rails and the chair. There are a number of modifications of this arrangement—all of which appear well calculated to effect the object in view, and they are stated to be the most economical, as well as safe, of any now in use.

INCREASED DRAUGHT IN LOCOMOTIVE FIRE-BOXES.—A patent has been taken out by Mr. E. Albon, for an apparatus for regulating and increasing the draught in locomotive chimnies, consisting of a pipe of copper, or other suitable material, affixed to the chimney, one end of which is bell-mouthed and open to the atmosphere, and the other turns upwards into the smoke-box in a perpendicular direction; the blast or steam-pipe passes up through the bend, and, by its exhausting action, causes the air which passes in at the bell-mouth to rush rapidly through the same into the chimney; and it is stated that, by this means, the current will be regular, though the steam is intermittent.

RAILWAYS IN SPAIN.—The ceremony of opening the Barcelona and Mataro Railway took place on the 29th October, in presence of the clergy and authorities. Its length is about 18 English miles, and runs nearly the whole distance along the sea shore. There is one tunnel about 500 yards in length, and there are seven stations on the line, which is single, the tunnel and bridges being constructed for a double line. The cost was about 200,000*l.*, nearly one-half of which was provided by English capitalists. The traffic on the line was estimated to pay a dividend of about 8 per cent. on the outlay. Mr. Locke was the engineer, and Messrs. Mackenzie and Brassie the contractors. The train, with about 200 passengers, started from Barcelona at 10 o'clock in the morning, stopping at each of the stations to receive the local authorities. Crowds of persons appeared at the stations along the line, loudly cheering the train as it passed. On its arrival at Mataro a procession was formed, and after attending service at the cathedral, the company proceeded to partake of a *déjeûne* prepared for the occasion, at which various toasts were given. The train started from Mataro at 3 o'clock, and arrived at Barcelona in about 35 minutes afterwards. The line was opened for public traffic the next day, when upwards of 300 persons availed themselves of its facilities.

ECONOMY IN FUEL.—It is not generally known (a correspondent observes), that coke, or cinders, mixed with small coals (the smaller the better), in about equal quantities, will produce a fire fully equal, if not superior, to the "best Wall's End," and at about one-fourth of the cost, or at the same price as small coals.—*Gateshead Observer.*

IMPROVEMENTS IN NAIL-MAKING MACHINERY.—Mr. Charles Lambert, of Bristol, has patented a new arrangement of machinery, by which heated rods of iron are, by eccentric rollers, or rotary cams, formed into wedges, or series of connected wedges, ready to be cut into separate nails. The machine consists of—first, a pair of moveable guides, for conducting forward the end of the rod of heated iron after it has received from the shaping rollers its approximate wedge forms; secondly, cutting and holding dies, the edges of which are employed to slice off horizontally a portion of the shaft of each nail, in order to give it, on the upper side, an inclined or wedge shape, corresponding, or nearly so, to the lateral form of the nail produced by the eccentric rollers; and, thirdly, a peculiar construction of double cutter for separating the wedge-formed shafts of the respective nails from the previously shaped rod. In the operation, the end of the iron rod, having advanced from between the shaping rollers, passes into a box, or tubular passage, below, within which the moveable guides are placed and operate. These moveable guides consist of two horizontal levers, mounted upon a plate affixed to the frame of the machine. They turn upon fulcrum pins, and are held open by a spring with forked ends, taking hold of studs at the outer sides of the moveable guides. The ends of the moveable guides have beaks, which, by the force of the spring, are made to bear against the peripheries of the cam rollers; and, as these cams revolve, their increasing radius acting against the beaks, causes the levers, or guides, to collapse; but when the decreasing radius of the cams acts against the beaks, then the levers, or guides, expand, and the channel between them is open for the free passage of the rod.

BARANOWSKI'S READY-RECKONING MACHINE.—This is a highly ingenious apparatus for ascertaining, with facility, the results of calculations, or reckonings, required to be made in various commercial and other establishments, in which similar results have frequently, or from time to time, to be determined—such, for instance, as the charge for the conveyance of different loads, for various distances, at a given rate, or the assessment of Government taxes at a given per centage, or reckonings of interest, or foreign money exchanges, or amounts of wages, or other like purposes, wherein readiness and accuracy are esssential, and where the result to be obtained is capable of being ascertained by sums, or numbers, previously calculated. It consists of a machine, containing these results, arranged consecutively in units, tens, hundreds, &c., with suitable apparatus for bringing the numbers of such table in view. There is a face-plate, with openings formed in it to admit of any portion of such commercial table being seen when required; these numbers are covered with accurately fitting slides, any of which can be withdrawn for exhibiting the numbers constituting the required result—the others not required being concealed from view. The slides and the face plate are so arranged, that the operator may readily see which slide to withdraw, in order to disclose any required result. When the result consists of two or more numbers, then two or more slides have to be withdrawn, by which two or more numbers are displayed, which, being added together, give the final result. There are several modifications of the machine.

DISCOVERY OF TELLURIUM IN VIRGINIA.—In the beginning of May last, Mr. Knowles Taylor, of New York, gave me two specimens of native gold, in mica-slate rock, from an auriferous vein recently discovered in Whitehall, near Fredericksburg, Virginia. In one of the specimens, I observed a considerable mass of a splendent foliated and sectile mineral, of the colour of antimony, which I recognised as an ore of tellurium. The gold was imbedded in a mass of it, and it was also observed to exist disseminated through the rock in shining metallic leaves. On submitting this mineral to analysis, I discovered that it was a *telluret of lead and gold*, or *foliated tellurium ore*. In the open glass tube before the blowpipe, telluric acid sublimes, and condenses in the cooler part of the tube in a yellowish-white film, which melts into drops. A little greyish sublimate also deposits, which is metallic tellurium. The residual matter, cupelled on mica, gave a well-characterised glass of litharge and a minute globule of pure gold. This interesting mineral has not, I believe, been heretofore discovered in the United States, and it is extremely rare in Europe. It had been mistaken for sulphuret of molybdenum, and was considered to be of no value. That error should be corrected, for it is not only valuable as an extremely rare mineral, but since, I am informed, it occurs in abundance in the Virginia Mine, it should be saved and wrought for gold, in the same manner as is practised in the tellurium and gold mines of Transylvania. It is very easy to expel the tellurium by heat, and then the gold may be obtained by the usual processes of amalgamation by mercury, and discharge of the mercury by heat. Since I detected the tellurium, I have conversed with T. A. Dexter, Esq., of Boston, who has recently visited the mine, and has seen a considerable quantity of this tellurium ore in the vein. He gave me two very well-characterised specimens, which he took from the vein in place; so there can be no doubt of its existence in a true auriferous vein.—C. T. JACKSON: *Silliman's Journal.*

IMPROVEMENTS IN THE MANUFACTURE OF IRON.—The following is the specification of a patent, recently secured by Charles Attwood, Esq., of Walsingham, Durham:—"This invention relates to improvements in the smelting, and the preparing to be smelted, such portions of iron ore as are broken small, or in a comminuted or pulverulent state, so that the ore falls through the fire to the bottom of the blast furnace before sufficient time is allowed to elapse to properly reduce, and cement, or combine, such comminuted particles with the necessary carbon, slag, or other substances usually mixed with iron ores in smelting—as mill cinders, forge cinders, and finery cinders, may also be similarly treated. In carrying out this invention, he employs that sort of coal only that has a tendency to aglutinate or run together during the process of coking. With this description of coal he mixes a quantity of the ore in a comminuted state, in the proportion of above one-fourth of the weight of the coal; the mass so mixed is afterward coked in the ordinary way of coking coal for smelting purposes; the ore so mixed becomes involved in the body of the coke, and by which it is retained, till freed from the coke by the subsequent process of smelting. It will be obvious that ore so combined cannot fall through the blast furnace faster than the coke with which it is combined; it will, therefore, have abundance of time to combine with carbon to the required extent, before it reaches the bottom of the furnace. With regard to the size of the particles of ore that will be benefitted by such treatment, anything from the size of a hen's egg or large walnut, down to the smallest particle of dust, it will be proper to subject to such combination with coal previous to coking; but anything materially larger it would be quite unnecessary to subject to such treatment, as it becomes properly reduced in the ordinary method of smelting iron. The patentee finds that coke, formed of the kind of coal before mentioned, found in Durham and Northumberland, will, after having been coked in the manner described, and combining with it one quarter of its weight of ore or slag, bear a burden of ore, in the ordinary manner of charging the blast furnace, equal to the same weight of coke, without such combination of iron ore; it therefore becomes improved to a very considerable degree, independently of the advantage derived from a proper reduction of the smaller particles of ore effected by this process. In how far it would be advisable to reduce some portions of the ore, in the event of the comminuted portion of the bulk not yielding the proportionate amount, would be a matter of experience; but as the pulverising ore, or the slag or cinders before mentioned, may be cheaply and expeditiously effected, he thinks such alteration would be attended with considerable advantage. In the lighter description of iron ores, the tendency to fall through the coke in smelting is not so apparent as in some of the heavier sorts, such as the red or hœmatite ores, the smaller portions of these finding their way to the bottom before being properly reduced, and which will, therefore, afford the best opportunities for this method of preparing the smaller particles thereof. In smelting ores with coke prepared in this manner, it is necessary to employ the usual quantity of lime or flux, but which it will be better to omit in the previous treatment of the coke and ore, as it would only detract from the necessary qualities of the coke; it will, therefore, be necessary to employ it in the smelting, as in ordinary."—*Patent Journal.*

REDUCTION OF IRON ORES.—The following is a description of the patent of Mr. W. S. Cooke, East Fairfield, Ohio, U.S., for an improvement in the reduction of iron ores:—"The patentee says—The nature of my invention consists in using steam in the form of a blast, for the purpose of softening iron, by introducing a jet of steam into a cupola, or furnace of the proper temperature (about 300°), either with or without air, depending on the kind of fuel used; the oxygen is absorbed by the fuel and supports combustion, and the hydrogen passes over the heated metal, the carbon of the metal unites with it, and is burnt in the form of carburetted hydrogen gas; by this process, hard brittle metal can be reduced to a soft malleable state, even without melting; if the casting is too brittle, the steam may be thrown on it while heated to a white heat, and it will have the desired effect.—CLAIM: What I claim as my invention, and desire to secure by letters patent, is the use and utility of using steam in the form of a blast, for the purpose of softening metallic ores while in the process of reduction (or changing form by smelting), as herein described."

LONDON AND NORTH-WESTERN.—The works on the unfinished portion of the Huddersfield and Manchester, a line of 20 miles in length, and one of the subsidiary lines in which the London and North-Western are interested by subscription, contribution, or guarantee, are to be resumed—one part being a contract of four miles by Stalybridge, and the other of three miles between Huddersfield and Marsden.

THE MANUFACTURE OF COKE.

With the extension of railways, and of the multitudinous pursuits brought into existence, and upheld mainly through the aid afforded by railway transit, the manufacture of coke has grown, out of a rude and limited operation, to be a branch of trade of the first magnitude, but not until a very late period have the refinements of philosophical principles added much to the crude details formerly adhered to by the rustic producer. Different branches of the arts have demanded, and brought forward, different methods of desulphurisation, and each new application has rendered necessary novelties peculiar to itself. Hence all the primary varieties of fuel, as wood, turf, brown coal, and common coal, have found their own applications in the arts, under the names of charcoal, peat-charcoal, and coke.

The less oxygen contained in the fuel, the more numerous are the products of decomposition which the predominant hydrogen forms with the carbon, as in coal. Of all fuels, that which has obtained the name of brown coal is the worst adapted for carbonising, although, in facility of decomposition by heat, it stands on the same level as wood. This is a coal of the tertiary formation, exhibiting the most distinct marks of vegetable remains, in many cases so clearly, that the most minute portions of the leaves and fruits have been made out, and their botanical arrangement completed. It possesses the least uniformity of all coal, and sometimes occurs entirely devoid of vegetable remains. In the more abundant secondary formation of mineral coal, or coal proper, we obtain the true raw material for the production of coke. The specific gravity of this coal varies from 1·2 to 1·4, and its ash is distinguished by containing no alkalies, but only alumina, silica, and oxide of iron. Dr. Richardson, of Newcastle, has accurately tested the specific gravity and the residual ash of almost every kind of coal. We give below the results obtained from several British varieties:—

	Spec. gravity.	Ash per 100 parts.
Wylam Banks—Newcastle	1·302	13·912
Glasgow Coal-field	1·307	1·128
Wigan—Lancashire	1·319	2·545
Edingburgh Parrot Coal	1·318	14·566
Jarrow—Newcastle	1·266	1·676
Chief Mass of Glasgow Coal	1·286	1·421
Garesfield—Newcastle	1·280	1·393
South Hetton—Durham	1·274	1·519

The same observer has recently given a correct analysis of the component gases of these coals, which may be here introduced:—

	Carbon.	Hydrogen.	Oxygen Nitrogen.
Wylam Banks	74·823	6·180	5·085
Glasgow	82·924	6·491	10·457
Wigan	83·753	5·660	8·039
Parrot	67.597	5·405	12·432
Jarrow	84·846	5·048	8·430
Glasgow Chief Mass	81·208	5·452	11·923
Garesfield Deep Bank	87·952	5·239	5·416
South Hetton	83·274	5·171	3·036

The anthracitic, or transitionary formation, is perfectly homogeneous, and presents no appearance of vegetable remains. It may be considered as a species of natural coke, as it consists almost entirely of carbon. Many kinds of coal pass, during the process of decomposition, into a species of fusion, and the gaseous bubbles arising, appear to be emitted from a pasty mass. The richest of all in carbon, is sand coal; but the theoretical richness in carbon is by no means a true test of the qualifications of coal as a coking material. In smelting furnaces, for instance, the coke must possess considerable solidity, to enable it to withstand the pressure of the materials without being crushed. Sand coal, and the too highly caking coal, are both objectionable in this point: the first produces a powdery coke, having a very feeble cohesive power; the second is too cellular, and for this reason the masses give way, and fall down under a very moderate pressure. Different opinions prevail as to the actual inferiority of these kinds of coal, but it is generally acknowledged that sinter coal, which combines some of the properties of both, is to be preferred to either. Our late experience has, however, shown that the relative hardness or softness of coke depends materially upon the method pursued in its conversion from the raw material, the different qualities of which must be carbonised on principles correctly suited to their primary compounds. Under the pressure of a heavy covering, the blisters formed by the escape of the gases are compressed together, and greater density results. In the extensive manufactories lately called into action, vast ranges of furnaces have been erected for the more economical coking of fuel, but the older method of simple heaps is still in use in many districts. Originally, the heaps were nothing more than mere circular mounds of small diameter; but, in order to obtain a greater extent of preparing surface, long heaps have been introduced. The ground of the heaps is composed of the waste dust and pulverised matters resulting from former cokings, and upon this, as a floor, large masses of coal are leant against each other, a long row over a guiding string, so as to form an ignition passage or archway. Over these a layer of smaller pieces is placed, with their natural lines of stratification upright, and their fractured surfaces at right angles to the longitudinal centre of the heap. This is continued in the same manner to the top of the heap, gradually diminishing the size of the pieces. Over this substratum the coking heap is then erected, with no other attention to arrangement than that of retaining the large masses near the bottom. Openings for lighting are ingeniously obtained, by driving stakes into the ground at distances of 2 feet asunder, previous to the erection, and upon drawing these out, apertures are left of size sufficient for the introduction of burning fuel, the draught for which is obtained by the central ignition passage in the bottom of the mass.

During the progress of the combustion, the burner watches the state of the external surface of the heap, and when the dense smoke ceases to issue from any point, or if an ash begins to form, he covers the place with powdered coke or charcoal dust, adding the coating gradually as external combustion appears, until the whole heap is completely covered, giving the windward side the thickest cover, to secure it from the influence of the wind. In this simple, but uneconomical method, the fire's action is from the exterior, where the light is introduced, downwards towards the centre to reach the channel for the conduction of the draught, so that the upper and outer layers of coal are actually coked, and are undergoing consumption as coke, before the main interior bulk has been reached.

The open air system is also carried on under another modification, whereby the carbonisation proceeds outward, and the loss by external combustion is obviated. The plan which is in operation at the Clyde Iron-Works, near this city, consists in the application of a central brick chimney, with a more philosophical arrangement of the coking mass, which is in the form of a circular mound. A conical chimney of brick, with a 3-feet base, is first erected on the floor of the mound, and carried up to a height of 3 or 4 feet, a brick being left out at intervals in the course of its erection, forming apertures leading into the interior of the brick cone. Round this cone, as a nucleus, the coal is piled, placing the largest masses at the bottom, and leaving open channels for the communication of the atmosphere, with the openings in the central chimney.

The mound, when completed, is about 20 feet in diameter, and 4 feet 6 inches in height when covered with its external stratum of cinders. The fire is applied down the mouth of the chimney, the flames commencing at the bottom, and radiating outwards to all parts of the mound, and openings are made at the base for the free passage of air to the central flue.

In four or five days the surface is seen through the covering to be red hot, and all connection with the atmosphere is then cut off, by placing an iron plate or damper on the top of the chimney, and closing up the side apertures for three days, when the coke is drawn.

In other quarters where the chimney is used, the process resembles that pursued in the heap system first described. The mound has no covering, and the chimney is covered over immediately after ignition. The coal of different districts requires distinct arrangements for coking; for instance, the large coal of Staffordshire may be conveniently and cheaply coked in the open air, but that of Newcastle, which is small, cannot properly be converted without an oven. In the latter locality, the usual time of conversion is 50 hours, but this depends materially on the state of the atmosphere, notwithstanding the process is conducted without any direct communication with the external air. Although 50 hours is deemed a sufficient period, it is to be remembered that a slower rate of conversion produces a far better quality of coke, brighter in colour, more sonorous, and in a more complete state of desulphurisation. The heated bottom of the oven is first spread with a 10-inch layer of small coal, which ignites without further trouble, the oven never being allowed to cool when once in operation. So soon as the flame has covered the top of the coal, the door is gradually closed, and the process goes on without further attention. In about 40 hours, the evolution of smoke will have nearly ceased, and in 10 hours more the flame disappears, when the charge may be drawn; but, if allowed to remain in for 40 hours longer, with the doors and chimney closed, the quality is highly improved. The drawing is effected by a large iron bar, by which the coked mass is broken, and the pieces are spread out to cool without the addition of water. Of the various kinds used for coke in the Newcastle district, that of the Tanfield Moor is considered to be the best; and, as some proof of the superiority of the article, it may be stated that the Royal Copper Works, at Mansfeld, in Prussia, use Newcastle coke. As an improvement upon the ordinary coke ovens, M. Michant has patented, in this country, a species of triplicate oven, or chamber, divided into three separate compartments, each fitted with its fire-place, furnace-door, and ash-pit. In his process, each of the compartments, is charged with coal, and the fuel is ignited in the ordinary way, the furnace-doors being rendered air-tight by luting. It is by the radation of heat from any one of the compartments to the other two, that economy is here aimed at; and for this purpose, in commencing to coke, the central compartment is first charged and put in action, and the heat radiated therefrom acts upon the uncharged divisions, the object being that the conversion shall be carried on in each compartment in regular succession. By the time the last compartment is charged, the first one is ready to draw, and when the latter is recharged, the second one is fit for drawing. Thus the process will be conducted without intermission; at the same time, that division which contains the cold charge will receive caloric from the side and crown of the adjoining one. We are told that the coke so prepared is of superior quality.—*Glasgow Practical Mechanic.*

THE THREE GREAT RAILWAY COMPANIES.

The proposed amalgamation of the London and North-Western, Great Western, and South-Western Railways will, if effected, create the most powerful combination ever known in this country, and bring to one undertaking an amount of capital larger than any of our great national undertakings. The total amount of the capital of the amalgamated company will be 42,371,239*l.*, divided as under:—London and North-Western capital, raised by shares, 14,044,573*l.*; by loans, 9,186,672*l.*—total, 23,231,245*l.* The shares in this company are 10,184 original shares, of 100*l.* each, which are paid up; 55,000 London and Birmingham, 25*l.* shares, upon which 22*l.* have been paid; 168,380 new quarter (25*l.*) shares, upon which 7*l.* only have been paid; 66,879 fifths, or 20*l.* shares, on which 18*l.* have still to be paid; 12,000 London and Manchester, 40*l.* shares, 25*l.* paid, and 15*l.* due; 30,000 Manchester and Birmingham, 10*l.* shares, marked A, upon which 9*l.* are paid; 60,000 ditto, marked B, 9*l.* paid; 70,000, marked C, 1*l.* paid—consequently the company have power to call upon—

55,000 Quarter shares, at £3 each	£ 165,000
168,380 New ditto, at £18 each	3,040,840
66,879 £20 shares, at £18 each	1,203,822
12,000 £40 shares, at £15 each	181,350
30,000 £10 shares, at £1 each	30,000
60,000 £10 shares, at £9 each	630,000
Total	£5,251,012

The capital of the Great Western is 11,457,277*l.*; 6,478,221*l.* being raised by shares; and 4,979,056*l.* by loan. The share capital is divided as under:—25,000 shares, of 100*l.* each, 90*l.* paid up; 28,000 50*l.* shares, all paid; 93,000 25*l.* shares, upon which 4*l.* are still due; 37,500 20*l.* shares, paid up; and 69,700 new 17*l.* shares, on which 13*l.* have been paid. This company has still power to call upon—

25,000 Original shares, at £10 each	£250,000
93,000 £35 shares, at £4 each	372,000
69,700 £17 shares, at £2 each	139,400
Total	£761,400

The South-Western Company has raised from shares 6,075,387*l.*, and by loans the sum of 1,609,350*l.*, or a total of 7,684,737*l.* The South-Western shares may be classed as under:—25,840 50*l.* paid-up shares; 60,000 new 50*l.* shares, upon which 42*l.* 10*s.* have been paid; 46,500 40*l.* shares, upon which 34*l.* have been paid; 9266 50*l.* consolidated tenths, paid up; 12,000 40*l.* consolidated tenths, paid up; 120,560 16*l.* 13*s.* 4*d.* tenths, upon which 13*l.* 6*s.* 8*d.* have been paid; 147,766 new 7 per cent. scrip, upon which 1*l.* 13*d.* 4*d.* only have been called up. This company has, therefore, power to call upon—

6,000 £50 shares, at £7 10*s.* each	£	45,000	0 0
46,000 £40 shares, at £6 each		279,000	0 0
120,560 £16 13*s.* 4*d.* shares, at £3 6*s.* 8*d.* each		281,306	13 4
147,766 £16 12*s.* 6*d.* shares, at £14 19*s.* 10*d.* each		2,210,482	13 4
Total	£	2,815,789	6 8

The amalgamated companies will, by their present powers, be entitled to call up, within the time allowed by the Act for doing so, the sum of 8,819,201*l.* 6*s.* 8*d.* The entire weekly receipt of the three companies, should they not exceed their present average, will be 70,000*l.* per week, or 3,640,000*l.* per annum. The number of miles of railway over which the companies will have control will be nearly 2000—upwards of 1000 of which they will have in their absolute possession. The North-Western consists of London and Birmingham, 112½ miles—Birmingham to Newton 83 miles, Liverpool and Manchester 31 miles, Manchester and Birmingham 31 miles, Macclesfield branch 10 miles, Northampton and Peterborough 47½ miles, Bedford and Bletchley 16½ miles, Leamington and Coventry 9 miles, Aylesbury 7 miles, Bolton and Leigh 10 miles, Chester and Crewe 21 miles, Trent Valley 49½ miles, Dunstable 7 miles, a portion of the North Union and Preston 19 miles.—The Great Western, from Paddington to Bristol, 118½ miles—Didcot to Oxford 10 miles, Swindon to Gloucester 37 miles, Kemble to Cirencester 4 miles, Bristol to Exeter 75½ miles, Gloucester to Cheltenham 7½ miles, Reading to Hungerford 25½ miles, Wilts, Somerset, and Weymouth 13 miles opened, Reading and Basingstoke 20 miles.—The South-Western main line is 106 miles—Bishopstoke to Salisbury 22 miles, Southampton to Dorchester 61 miles, Weybridge to Chertsey 3 miles, Poole branch 2 miles, Windsor and Datchet 14 miles, Waterloo extension 2 miles.—The great company will thus, by means of their own and other lines, in which they are beneficially interested, have the entire traffic from Plymouth to Perth.

The *Times* of Thursday says, "the proposed amalgamation has, since its public announcement, engaged the attention of several shareholders in those companies, and has given rise to much conversation on the subject. A great practical difficulty presents itself to them respecting the terms upon which it is proposed to amalgamate. Shareholders of the London and North-Western contend, that it would be exceedingly unjust to them to unite at par with either the Great-Western or the South-Western—the stock of the former being considered more valuable, in every respect, than that of either of the latter. The Great Western shareholders, on the other hand, believe it would be advantageous to them to amalgamate; and, as a proof, the prices of their shares have risen considerably since the announcement. Some of the Liverpool shareholders of the London and North-Western look with considerable dismay upon the scheme—they say, the object for which it is proposed to amalgamate—namely, to avoid expensive Parliamentary contests—would be much better effected by a committee, composed of equal numbers of directors or shareholders in the three companies, with power to decide any question or dispute which may arise between the respective boards as to branches or extensions. They are alarmed at the probable consequences of further amalgamation, which, they say, can only have the effect of permanently reducing the dividend—stating, as a case in point, that the Liverpool and Manchester, from its opening, in the year 1830, to the amalgamation with the Grand Junction and the Birmingham, in 1846, paid a dividend of 10 per cent. per annum, that the Grand Junction paid, at one period, 13 per cent., and never less than 9½ per cent. per annum, until after the amalgamation, in 1846, with the London and Birmingham Company. The last dividend of the amalgamated, or London and North-Western Company, was at the rate of 7 per cent. per annum. Those who were in the habit of receiving 10 per cent. dividend for the past 15 years feel the reduction, as well as those who purchased the shares in the London and North-Western at a high premium, expecting that it would continue to pay a 10 per cent. dividend, and are, of course, anxious to avoid further reduction. The amalgamation scheme is looked upon with much distrust—its magnitude being likely to create public jealousy, and thereby render it liable to restrictions, which might tend to still further injure the property and reduce its value. The general opinion is, that the scheme will result in no good to the shareholders generally, and that it has been concocted more with a view to promote the great ambition of a few individuals, than to effect any substantial benefit to the shareholders or advantage to the public."

LITERARY NOTICES.

A Letter to the Right Hon. Lord John Russell, M.P., on the subject of Indian Railways. By AN EAST INDIA MERCHANT. London: Smith, Elder, and Co., Cornhill.—1848.

This subject, though one of the utmost importance to the welfare of the hundreds of millions of human beings inhabiting the peninsular of India, has been thoroughly investigated, and its difficulties, surrounded as they are by adverse interests at present, appear not to be easily surmounted. The body of the pamphlet is occupied principally with the correspondence which, during the past few years, has taken place between the East India Company and the several Indian Railway Companies; but his introductory and concluding remarks fully testify to his thorough acquaintance with the country, and his long-considered views on the subject. As an East Indian merchant, whose whole property has been devoted to the commerce and interests of India, he says—"I have, within the last few years, been led to bestow much thought and consideration on the best means of developing the resources, moral and physical, of those important territories which have so long been under our dominion, but for which hitherto we have done so little." And again—"To India, as yet, the benefit of this improved mode of intercommunication (railway) has been denied, though there is no country to which it is more necessary—none for which it is calculated to do so much. Hence, while in America the work of civilisation is extending inland far and wide with progressive movement, and the result is seen in the shipment of its produce to all corners of the earth, the interior of India remains, with small exception, a jungle almost unexplored and comparatively uncultivated—while produce, which might yield food and employment for millions who pine in misery, rots on the ground, for want of the means of conveyance: the excessive manufactures of an over-peopled country seek in vain a market, while myriads, who have the means to buy, and would gladly communicate their unavailing riches, are compelled to live and die in barbarism and degradation." The following concluding remark is pithy in the extreme:—"England, the Lilliputian island, rich and selfish as a pampered glutton, has indulged to excess in the luxury of railways. Let her now resign herself to repose and the needful process of digestion—while her slave, the Giant Continent of India, feeble from inanition, and sick at heart from hope deferred, is permitted to break her fast upon the superfluity of her master's abundance."

Railway Property as it Is, and Railway Property as it Should Be; or, an Examination into the Causes of its Depression, and the Means necessary to Retrieve it.—Addressed to all Railway Shareholders, and more especially the Directorates. By a MEMBER OF THE INSTITUTION OF CIVIL ENGINEERS.—London: E. Wilson, Royal Exchange.—1848.

So numerous and so various have been the pamphlets which have issued from the press on this subject, that it would appear to have been almost exhausted, and that nothing could be left to interest the reader. The author of the one before us, however, in the small space of 16 largely printed pages, proves to demonstration that the enormous weights carried, and the great speed required, with rapid succession of trains, has been the cause of extravagant outlay, and consequently of diminished dividends, and depression in the value of shares. He truly observes, that the expenses of working railways are materially affected by the speed at which the trains travel, as well as their number; that it is much less expensive to run trains 25 than 40 miles per hour; and also that it is more economical to convey 500 passengers in two trains than in three; so far correct, but, though his generality of remarks are adduced from facts, we cannot agree with him, that the directors having fixed "the fares at a fair and moderate rate," are to continue changing every week, and running up and down the sliding-scale, like a thermometer in convulsions; or that "proprietors of capital should not be sacrificed to the IDEAL wants of the public." The *wants* of the public are not ideal—railway directors have oft found it so, to the detriment of their shareholders, and the continual alterations of their "time tables" have, we believe, done more injury to steadily-increasing traffic than any other means they could have taken. Let them "fix their fares at moderate rates"—let them start the trains at reasonable periods, and moderately rapid speeds; and, as our author recommends, "publish accounts at once simple, detailed, and unreserved, so that there cannot be any misconception as to the actual position of the concerns (over which they preside)—we shall once more see confidence in railways restored—the stock marketable at its actual value, and all legitimate lines yielding handsome returns to the shareholders." The entire of the pamphlet (although, we think, the author holds some few rather extreme views as to the rights of railway proprietors over those of the public) are sound in theory, and it is evident he is practical in his experience.

SHEFFIELD LEAD MINING COMPANY.—This enterprising company have had the satisfaction of witnessing the opening of the new shaft into the level, or adit, now progressing northward of Eyam. The level will be nearly two miles long, and the new shaft has been sunk, with a view of facilitating the progress of the work. The shaft in question is the last that will be required, as the level is complete, when there is every reason to believe that a doubly remunerating profit will be the result of this vast and praiseworthy undertaking. Eyam Edge—which is the destination of the level—has hitherto furnished one of the richest metallic lodes in England; and there is data to prove that, if the level be competent to carry off the water, it will yield greater riches still. For this noble undertaking the public are indebted to a company of gentlemen principally of Sheffield, who will, if there be any reliance to be placed in human testimony, experience, geological features, and other mining data, be amply rewarded for their spirit.—*Sheffield Times.*

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Cascade Mining Company—Queen's Arms Tavern, Cheapside, at Two.
TUESDAY.....Equitable Gas-Light Company—offices, at One.
WEDNESDAY..Imperial Continental Gas Association—offices, at Two.
Medical, Legal, and General Mutual Life Assurance Co.—offices, Twelve
Rhymney Iron Company—offices, at One.
Cameron's Coalbrook Steam Coal and Swansea and Loughor Railway Co.—offices, at One.
THURSDAY....Imperial Brazilian Mining Company—London Tavern, at One.
West Flanders Railway—London Tavern, at One.
Greenhithe Pier Company—offices, at Two.
FRIDAY.....Alten Mining Association—offices, at One for Two.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

CALEDONIAN RAILWAY COMPANY.

A special general meeting of shareholders was held yesterday (Friday), at the Euston Hotel, Euston-square, to receive a report of the directors, and to consider and determine as to entering into a joint arrangement with the Edinburgh and Glasgow Railway Company, for leasing the Scottish Midland Junction Railway, and also as to modifications of the existing agreements with the Scottish Central, and Dundee, Perth, and Aberdeen Junction Railway Companies, upon terms to be submitted to the meeting or otherwise. J. J. H. JOHNSTONE, Esq., in the chair.

Capt. CODDINGTON (the secretary), having read the advertisement convening the meeting, the CHAIRMAN rose, and said, it was with great satisfaction he then met so large and respectable a body of proprietors, and more so on account of what had taken place; bitter and keen attacks had been made upon the board of direction; from whence they emanated he could not tell; but, from whatever quarter they came, and from whatever motives they had been made, they were most inimical to the interests of the company; and he believed they had already done much injury. He was sorry to be in opposition with so large a body of his co-proprietors; he did not, however complain, and fully acknowledged their right to watch over their own interests, particularly in an undertaking of so much importance. A difference of opinion might exist; but, for their own security, it was absolutely necessary that a definitive decision should be come to.

It had, at first, been the intention of the directors to have reserved their explanations until that meeting; but when they considered the length of time they would have taken, and involved them in useless discussion, they determined to have them printed and circulated, to give each proprietor an opportunity of making himself fully acquainted with them before the meeting. It should be particularly borne in mind, that this was a new undertaking—the passenger traffic not near developed, and far from being prepared for goods accommodation; and he had no doubt but, as their capabilities for this branch of traffic increased—and they were pushing them forward to the utmost of their ability—they would secure a permanent and profitable goods trade. He read a statement of four railways, to show how they increased in traffic after the first three or four years—Liverpool and Manchester, 50 per cent.; Glasgow and Garnkirk, 60 per cent.; Glasgow and Ayr, 70 per cent.; and Edinburgh and Glasgow, 95 per cent.; and he could not see that there was any inherent fault in, or circumstances connected with, their line, to prevent them partaking of similar success, if they all proceeded harmoniously together, he believed the carrying out these guarantees would bind them together for their best interests for all time to come. He said it was their intention, as vacancies occurred, to fill some up from gentlemen in London, and thus enable London shareholders to be always informed of the proceedings in Scotland. He then moved a resolution to the effect, that the directors take steps for the confirmation of the leasing and working, in conjunction with the Edinburgh and Glasgow, the Scottish Central, and Dundee, Perth, and Aberdeen Railways.

Mr. R. ABBOT proposed an amendment for a committee of inquiry, and an adjournment; and commenced by stating, that 10 of the names of the directors were not in the share list. This, however, was completely refuted by all the directors present; and the meeting was satisfied of their qualification. The amendment of Mr. ABBOTT was seconded by Mr. BOWDEN.

The Hon. FOX MAULE (secretary to the Treasury), in a long and eloquent speech, defended the conduct of the directors, showed the policy of their proceedings, and particularly as to the proposed guarantees to secure them from competition: and contended that, in conjunction with the Edinburgh and Glasgow Company, it would secure them a permanent and profitable traffic.

Subsequent to this, the meeting was addressed by numerous proprietors on both sides, among whom were Messrs. Campbell, Hodgson Hinde, Maxwell, Taylor, Turner, Foster, Tite, Hastie, Brown, and others, when, after a most stormy disussion of four hours' duration, the original resolution was carried, when a poll was demanded—the result of which was a majority in favour of the original motion of 6273 votes, and representing a stock value of 785,486*l.*

The following is an abstract of the statement above referred to by the chairman:—It states that the directors earnestly recommended the shareholders to weigh well the considerations contained in the report previously issued, and to contrast the results with the fallacious statements recently promulgated, and which, from whatever motives they may have emanated, had no doubt damaged their property in public estimation; and the directors felt confident that the shareholders would arrive at the conclusion, that their prospects were very different to what had been represented; and that the guarantees which they were recommended to throw aside, formed the elements of their future strength. Then follows a series of tables; the first of which shows the total capital, for the construction of the main line and branches, when the whole is paid up, to be 4,463,330*l.*—consisting of loans, 1,030,200*l.*; preference shares at 7 per cent. for five years, and 6 per cent. after, 745,180*l.*; ordinary capital, 2,687,950*l.* The second table shows the amount of capital on the guaranted lines, their length, and dividends payable thereon—viz.: Clydesdale Junction; Wishaw and Coltness; Glasgow, Garnkirk, and Coatbridge; Glasgow Paisley, and Greenock; and the loan capital on the Wishaw, Garnkirk, and Greenock—63 miles; capital, 1,746,335*l.*; and dividends payable thereon, 104,708*l.* per annum. We then have the working expenses on a total length of 190 miles. This the directors say has not yet been sufficiently tested by experience to calculate with precision; but, from the actual cost of those in the nearest districts, and which bear the greatest resemblance, the average gives 712*l.* per mile per annum, or 13*l.* 14s. per mile per week. According to these averages, 14*l.* per mile per week, or 728*l.* per mile per annum, amounting to 138,380*l.* per annum per 190 miles, it will be seen, according to the following table, would produce dividends of 4 and 5 per cent. per annum:—

Weekly Revenue.	Annual Revenue.	Working Expenses.	Int. on Loans, Guar. dividends, and Pref. Shares.	Remains for div. on ord. share capital.	Rate per cent. of dividend.
£8592	£446,784	£138,320	£200,928	£107,536	4 p. ct.
9109	473,668	138,320	200,928	134,420	5 p. ct.
9816	510,432	148,200	200,928	161,304	6 p. ct.
10523	547,196	158,080	200,928	188,188	7 p. ct.

The present weekly revenue of the main line and its branches is 7800*l.*—so that it requires only an increase of 792*l.* per week to yield a dividend of 4 per cent., even assuming the *whole of the capital* to be paid up. A table of the liabilities under the proposed arrangements with the Scottish Central, Scottish Midland Junction, and Dundee, Perth, and Aberdeen Junction, is next given, from which it appears that, out of a guaranteed dividend of 143,800*l.* per annum, the proportion guaranteed by the Caledonian is 72,150*l.* per annum, and this is on the supposition *that they earn nothing beyond their working expenses and the interests on their loans*; the directors, however, believe that the receipts from these lines, when fully developed, will cover their expenses and guarantees. The next is a statement of the capital required for lines for which powers have been obtained, but which will not be acted upon without the authority of the shareholders; it consists of shares capital, 1,765,820*l.*; loans, 614,530*l.*; total, 2,380,350*l.*

The report concludes with the following remarks:—"Several of the lines authorised by these Acts pass through districts of great importance, from their mineral resources; and the Lesmahagow and Motherwell branches in particular, would not only form valuable feeders to the parent line, but would also in themselves yield a large return for the capital necessary for their construction. After the severe ordeal, however, which has been encountered in accomplishing the opening of the Caledonian line itself, the directors consider it out of the question to attempt to proceed with any works beyond those which are absolutely essential, and all of which are embraced by the capital already issued and borrowing powers. These branches, therefore (with the exception of a few miles of line to bring the Wilsontown coal-fields into connection with the Auchengray station, and some of the improvements authorised by the last-mentioned Act, which are in course of execution), must, of necessity, be postponed till the true value of the main undertaking has been tested by experience; and the state of the times is such as to render it an object to the shareholders to authorise their construction."

London: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors), at their offices, No. 26, FLEET-STREET, where all communications are requested to be addressed. [*November 11, 1848.*]